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In cooperation with  
Missouri Department of  
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Missouri Agricultural  
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States Department of  
Agriculture, Forest Service;  
Missouri Department of  
Conservation; and Ozark  
County Soil and Water  
Conservation District

# Soil Survey of Ozark County, Missouri



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# How To Use This Soil Survey

## General Soil Map

The general soil map, which is a color map, shows the survey area divided into groups of associated soils called general soil map units. This map is useful in planning the use and management of large areas.

To find information about your area of interest, locate that area on the map, identify the name of the map unit in the area on the color-coded map legend, then refer to the section **General Soil Map Units** for a general description of the soils in your area.

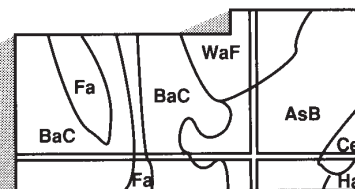
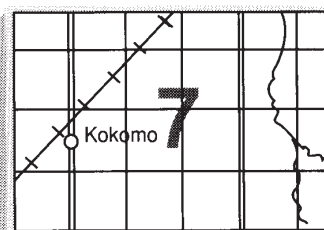
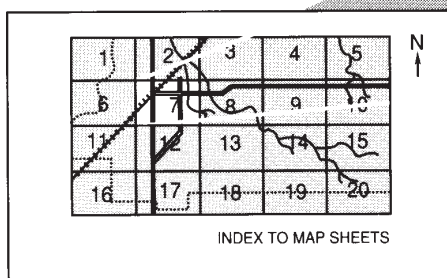
## Detailed Soil Maps

The detailed soil maps can be useful in planning the use and management of small areas.

To find information about your area of interest, locate that area on the **Index to Map Sheets**. Note the number of the map sheet and turn to that sheet.

Locate your area of interest on the map sheet. Note the map unit symbols that are in that area. Turn to the **Contents**, which lists the map units by symbol and name and shows the page where each map unit is described.

The **Contents** shows which table has data on a specific land use for each detailed soil map unit. Also see the **Contents** for sections of this publication that may address your specific needs.



NOTE: Map unit symbols in a soil survey may consist only of numbers or letters, or they may be a combination of numbers and letters.

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This soil survey is a publication of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (formerly the Soil Conservation Service) has leadership for the Federal part of the National Cooperative Soil Survey.

Major fieldwork for this soil survey was completed in 1999. Soil names and descriptions were approved in 2000. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 2000. This survey was made cooperatively by the Natural Resources Conservation Service; the Missouri Department of Natural Resources; the Missouri Agricultural Experiment Station; the United States Department of Agriculture, Forest Service; the Missouri Department of Conservation; and the Ozark County Soil and Water Conservation District. The survey is part of the technical assistance furnished to the Ozark County Soil and Water Conservation District. Financial assistance was provided by the Missouri Department of Natural Resources.

Soil maps in this survey may be copied without permission. Enlargement of these maps, however, could cause misunderstanding of the detail of mapping. If enlarged, maps do not show the small areas of contrasting soils that could have been shown at a larger scale.

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**Cover:** A typical area of Alred-Ocie complex, 1 to 8 percent slopes. The higher knobs in the background are in an area of Rueter-Rock outcrop complex, 15 to 50 percent slopes, very stony.

*Additional information about the Nation's natural resources is available on the Natural Resources Conservation Service homepage on the World Wide Web. The address is <http://www.nrcs.usda.gov>.*

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# Foreword

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This soil survey contains information that affects land use planning in this survey area. It contains predictions of soil behavior for selected land uses. The survey also highlights soil limitations, improvements needed to overcome the limitations, and the impact of selected land uses on the environment.

This soil survey is designed for many different users. Farmers, foresters, and agronomists can use it to evaluate the potential of the soil and the management needed for maximum food and fiber production. Planners, community officials, engineers, developers, builders, and home buyers can use the survey to plan land use, select sites for construction, and identify special practices needed to ensure proper performance. Conservationists, teachers, students, and specialists in recreation, wildlife management, waste disposal, and pollution control can use the survey to help them understand, protect, and enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. The information in this report is intended to identify soil properties that are used in making various land use or land treatment decisions. Statements made in this report are intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are shallow to bedrock. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

These and many other soil properties that affect land use are described in this soil survey. Broad areas of soils are shown on the general soil map. The location of each soil is shown on the detailed soil maps. Each soil in the survey area is described, and information on specific uses is given. Help in using this publication and additional information are available at the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

Roger A. Hansen  
State Conservationist  
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# Soil Survey of Ozark County, Missouri

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By Dorris F. Festervand and John D. Preston

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United States Department of Agriculture, Natural Resources Conservation Service, in cooperation with the Missouri Department of Natural Resources; the Missouri Agricultural Experiment Station; the United States Department of Agriculture, Forest Service; the Missouri Department of Conservation; and the Ozark County Soil and Water Conservation District

OZARK COUNTY is in south-central Missouri (fig. 1). It has an area of 483,315 acres, or about 755 square miles. It is bordered on the north by Douglas County, Missouri; on the east by Howell County, Missouri; on the west by Taney County, Missouri; and on the south by Baxter, Fulton, and Marion Counties, Arkansas. Gainesville, the county seat, is in the central part of the county. In 2000, the population of Ozark County was 9,542 and the population of the city of Gainesville was 632. Other communities include Bakersfield, Dora, Tecumseh, Theodosia, Thornfield, and Wasola.

Beef cattle and dairy cattle are the dominant livestock species in the county. Cool-season grasses, shallow-rooted legumes, and deep-rooted legumes, such as fescue, red clover, and alfalfa, are the main forage species grown for pasture and hay. A majority of the county supports timber, including areas of both mature and regenerating stands. The remaining areas are used for pasture and hay and occupy a portion of the gently sloping and moderately sloping uplands and a major part of the bottom lands.

The county is dominantly rural. The local economy is based on retail business, livestock farming, service facilities, and tourism. Several small towns have business districts that are supported by the surrounding rural areas. Norfolk and Bull Shoals



Figure 1.—Location of Ozark County in Missouri.

Lakes, along with several large creeks, provide opportunities for recreational activities, such as boating, fishing, and canoeing. The Forest Service manages 38,805 acres in the county. These areas are used extensively for hunting, camping, and hiking.

## General Nature of the County

This section provides general information about the county. It describes history and development; farming; climate; and relief and drainage.

### History and Development

In 1808, this region was part of the Osage Indian land cession. Other Indian tribes also hunted and fished in the area.

On January 29, 1841, Ozark County was established by the Missouri Legislature. The original boundaries included the area that is now Douglas County and extended to the Missouri-Arkansas state line and from Taney County to about the middle of Howell County. This vast area encompassed about 1,580 square miles. Rockbridge was the county seat. In 1857, Ozark County was reduced to its present size and the county seat was shifted to a more central location in Gainesville.

Growth in the region was slow because of the Civil War. Following the war, however, many new communities were established.

By the early 1900s, the virgin pine forests in the county had been cut. Farming small grain crops had proven to be unproductive. Lead and zinc were mined intermittently. The railroads bypassed Ozark County, and the area has remained very rural.

In the 1930s, the Mark Twain National Forest was founded. Today there are 38,805 acres of national forest in Ozark County. Of this total, 18,804 acres is in the Willow Springs Ranger District and 20,721 acres is in the Ava Ranger District.

In 1943, Lake Norfork was formed by a dam on the North Fork of the White River in Arkansas. In 1951, another dam on the White River impounded Bull Shoals Lake, named for Bull Mountain and the river shoals. The building of the lakes helped establish new industries, recreational facilities, and retirement services.

### Farming

The first Europeans who settled in the survey area found a mix of dense forest and bluestem prairies (Piland, 1991). These settlers were accustomed to getting their fuel, building materials, and food from the forest. Hunters, trappers, and other early visitors found an abundance of elk, antelope, bear, deer, wildcat, wolves, turkey, geese, and ducks. Fish were plentiful in the rivers and streams. The county's first pioneers raised some livestock, but most of them supported

their families by hunting wild game, finding bee trees, trading furs, and trading with the Indians.

Livestock populations began to increase during the period from 1860 to 1900. The acreage used for small grain crops (wheat, corn, and oats) increased during this time, although yields were low. Many farmers began raising cotton as a cash crop. Two or three cotton gins were located in the county during the late 1890s and early 1900s. Cotton was grown into the 1920s, but other crops became more profitable. Corn, wheat, oats, cane, peas, and turnips were commonly grown into the 1930s and 1940s. As horse-drawn machinery was replaced by tractors, these crops were replaced by forage crops, which were more productive and could also help to control erosion and conserve the soil.

The number of milk cows increased in the county, and most farms sold cream and milk. During the 1940s and 1950s, cattle numbers increased. Between 1960 and 1975, cattle numbers increased at the highest rate since 1850. These changes were brought about by the use of perennial forage crops, such as fescue, orchardgrass, red clover, alfalfa, and ladino clover, and the increased use of commercial fertilizers. The harvest of fescue seed became another important part of fescue production. Also, larger round bales had been introduced into the modern hay system.

### Climate

Table 1 gives data on temperature and precipitation for the survey area as recorded at Wasola in the period 1961 to 1990. Table 2 shows probable dates of the first freeze in fall and the last freeze in spring. Table 3 provides data on length of the growing season.

In winter, the average temperature is 35.7 degrees F and the average daily minimum temperature is 24.5 degrees. The lowest temperature on record, which occurred on December 23, 1989, is -22 degrees. In summer, the average temperature is 75.9 degrees and the average daily maximum temperature is 87.6 degrees. The highest recorded temperature, which occurred on July 14, 1954, is 111 degrees.

Growing degree days are shown in table 1. They are equivalent to "heat units." During the month, growing degree days accumulate by the amount that the average temperature each day exceeds a base temperature (50 degrees F). The normal monthly accumulation is used to schedule single or successive plantings of a crop between the last freeze in spring and the first freeze in fall.

The total annual precipitation is 40.47 inches. Of this total, 25.7 inches, or about 64 percent, usually falls in April through October. The growing season for

most crops falls within this period. The heaviest 1-day rainfall during the period of record was 5.33 inches on December 3, 1982. Thunderstorms occur on about 52 days each year, and most occur between May and August.

The average seasonal snowfall is 8.4 inches. The greatest snow depth at any one time during the period of record was 18 inches. On the average, 2 days of the year have at least 1 inch of snow on the ground. The heaviest 1-day snowfall on record was 16 inches, recorded on February 8, 1980.

The average relative humidity in midafternoon is about 60 percent. Humidity is higher at night, and the average at dawn is about 83 percent. The sun shines 66 percent of the time possible in summer and 50 percent in winter. The prevailing wind is from the south for most of the year but is from the northwest during February and March. Average windspeed is highest, between 11 and 12 miles per hour, from November to April.

## Relief and Drainage

Ozark County is within the Ozark Highland region, where surface features are mainly a result of the Ozark uplift and the subsequent geologic erosion. The Ozark uplift consists of the Springfield Plateau and the Salem Plateau.

The Springfield Plateau is exposed in the central part of the county just north of Gainesville in the Caney Mountain Wildlife Area and in the northwestern part of the county along the Glade Top Trail. It is also exposed in areas where there are isolated pinnacles that are higher than the adjacent land. The plateau has been strongly dissected by the streams and is characterized by gently sloping to strongly sloping, long, narrow, winding ridges and moderately steep to very steep, very stony and extremely stony side slopes and pinnacles. The elevation generally ranges from 1,200 to 1,400 feet above sea level. The highest point in the county is on the Springfield Plateau at an elevation of 1,490 feet at the Romance Lookout Tower in the central part of Ozark County.

The rest of Ozark County is on the Salem Plateau and is characterized by nearly level to moderately sloping ridges and strongly sloping to very steep, stony to extremely stony side slopes with outcrops of dolostone and sandstone. The elevation in this part of the county ranges from 546 feet (the lowest point in the county) to 1,200 feet above sea level.

All of the streams in Ozark County are in the drainage basin of the White River and flow into Bull Shoals Lake or Norfolk Lake. These lakes were created by the damming of the White River. Bull

Shoals Lake has a normal pool elevation of 645 feet, and Norfolk Lake has a normal pool elevation of 546 feet.

Ozark County has four main tributaries, all of which flow basically southward. Pond Fork and Little North Fork are the two main tributaries that drain the western part of the county, where they eventually flow into the Theodosia arm of Bull Shoals Lake. Several smaller tributaries also drain the western part of the county and flow into the Little North Fork. These include Little Creek, Turkey Creek, and Barren Fork. Bryant Creek and the North Fork River are the two main tributaries that drain the eastern part of the county. Both of these streams flow into Norfolk Lake near the town of Tecumseh.

Other tributaries that drain Ozark County are Spring Creek near the Douglas County line; Pine Creek, Lick Creek, and Spring Creek on the Howell County line; Bridges Creek; and Bennett's Bayou. Spring Creek flows in an easterly direction along the Douglas County line and drains the north-central part of the county, eventually emptying into Bryant Creek in Douglas County. Pine Creek and Lick Creek flow in a southeasterly direction and drain the central part of the county. Pine Creek flows into Bryant Creek, and Lick Creek flows into Norfolk Lake. Spring Creek (originating in Howell County), Bridges Creek, and Bennett's Bayou flow in a southwesterly direction and help drain the eastern part of the county. Spring Creek flows into the North Fork River, and Bridges Creek and Bennett's Bayou flow into Norfolk Lake.

## How This Survey Was Made

This survey was made to provide information about the soils and miscellaneous areas in the survey area. The information includes a description of the soils and miscellaneous areas and their location and a discussion of their suitability, limitations, and management for specified uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They dug many holes to study the soil profile, which is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

The soils and miscellaneous areas in the survey area are in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and

miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

The descriptions, names, and delineations of the soils in this survey area do not fully agree with those of the soils in adjacent survey areas. Differences are the result of a better knowledge of soils, modifications in series concepts, or variations in the intensity of mapping or in the extent of the soils in the survey areas.



# General Soil Map Units

The general soil map in this publication shows broad areas that have a distinctive pattern of soils, relief, and drainage. These broad areas are called associations. Each association on the general soil map is a unique natural landscape. Typically, it consists of one or more major soils or miscellaneous areas and some minor soils or miscellaneous areas. It is named for the major soils or miscellaneous areas. The components of one association can occur in another but in a different pattern.

The general soil map can be used to compare the suitability of large areas for general land uses. Areas of suitable soils can be identified on the map. Likewise, areas where the soils are not suitable can be identified.

Because of its small scale, the map is not suitable for planning the management of a farm or field or for selecting a site for a road or building or other structure. The soils in any one association differ from place to place in slope, depth, drainage, and other characteristics that affect management.

## 1. Cedargap-Pomme Association

### *Composition*

*Extent of the association in the survey area: 10 percent*

*Extent of the components in the association (fig. 2):*

Cedargap and similar soils—49 percent

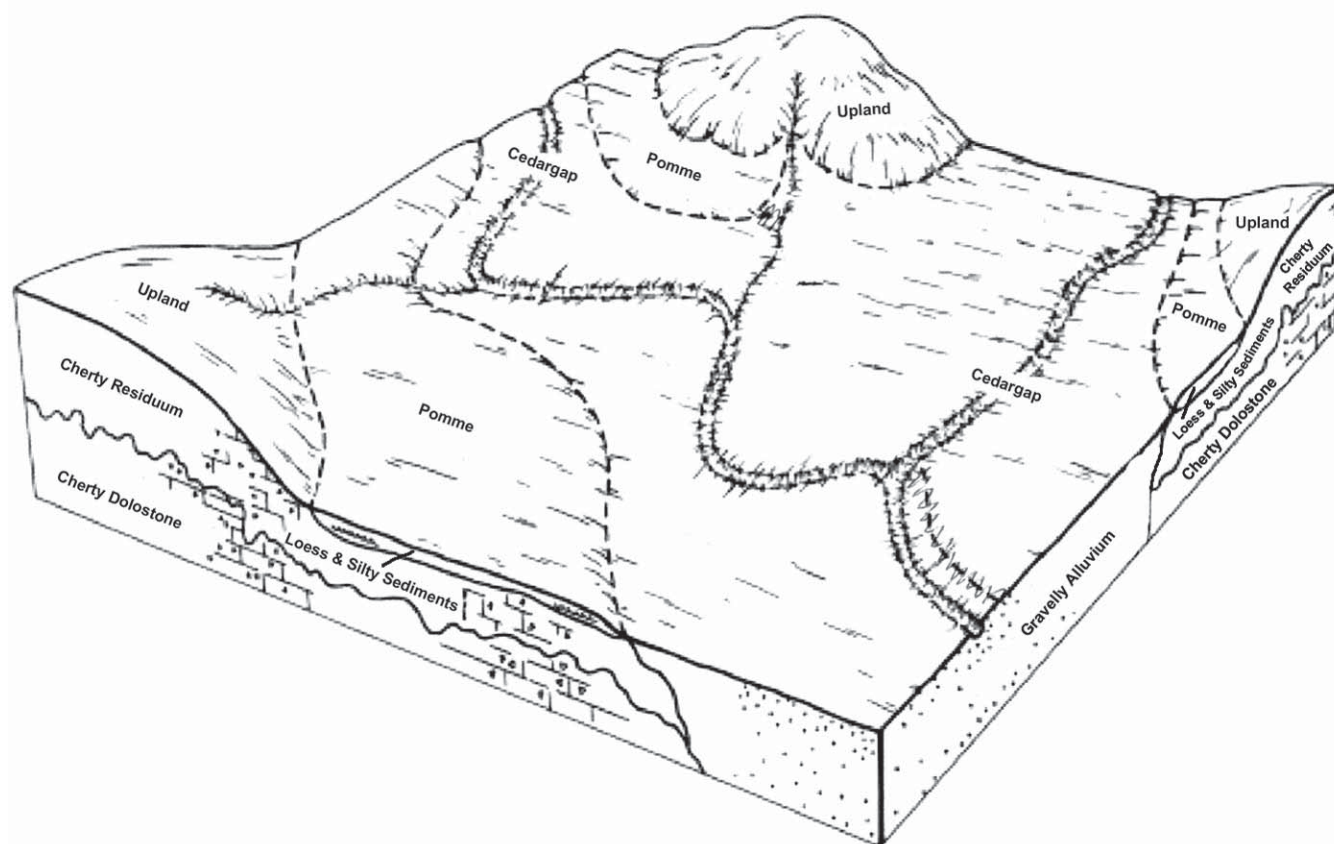


Figure 2.—Typical pattern of soils and parent material in the Cedargap-Pomme association.

Pomme and similar soils—16 percent  
 Soils of minor extent—35 percent

### ***Soils of Minor Extent***

- Racket, Razort, Relfe, Sandbur, Secesh, Tanglenook, Topazmill, and Zanon

### ***Landscape***

Cedargap—flood plains along small streams  
 Pomme—footslopes along major streams

### ***Parent Material***

Cedargap—alluvium  
 Pomme—hillslope sediments over alluvium

### ***Slope Range***

- 0 to 8 percent

## **2. Alred-Ocie-Mano Association**

### ***Composition***

*Extent of the association in the survey area:* 13 percent

*Extent of the components in the association (fig. 3):*

Alred and similar soils—39 percent

Ocie and similar soils—23 percent

Mano and similar soils—15 percent

Soils of minor extent—23 percent

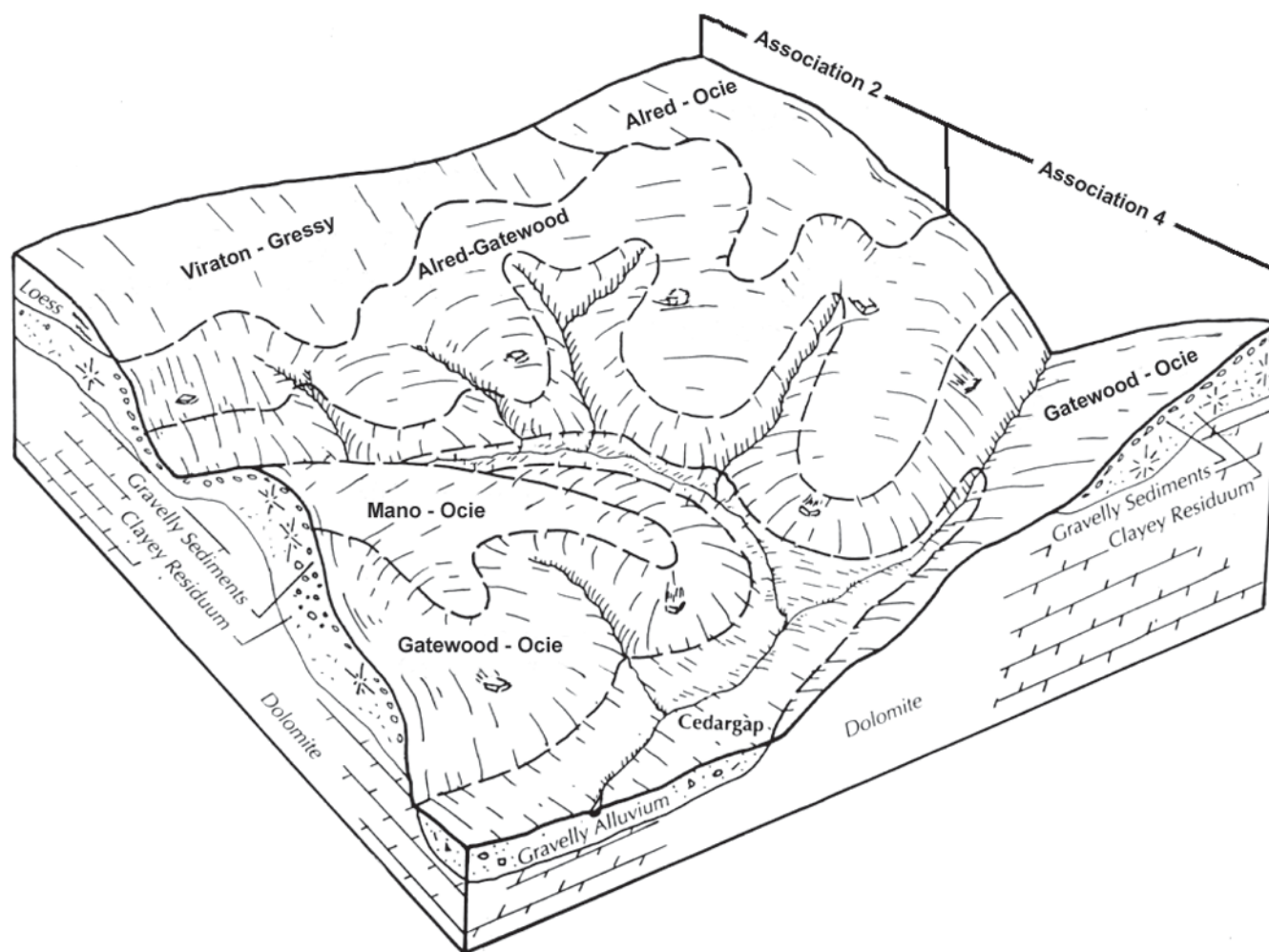


Figure 3.—Typical pattern of soils and parent material in the Alred-Ocie-Mano and Alred-Gatewood-Ocie associations.

### ***Soils of Minor Extent***

- Gatewood, Gressy, Jerktail, Moko, Viraton, and Wasola

### ***Landscape***

Alred, Ocie, and Mano—ridgetops and shoulder slopes

### ***Parent Material***

Alred, Ocie, and Mano—hillslope sediments over residuum

### ***Slope Range***

- 1 to 15 percent

## **3. Gatewood-Moko Association**

### ***Composition***

*Extent of the association in the survey area:* 25 percent

*Extent of the components in the association (fig. 4):*

Gatewood and similar soils—41 percent

Moko and similar soils—38 percent

Soils of minor extent—21 percent

### ***Components of Minor Extent***

- Alred, Cedargap, Mano, Ocie, and Tick soils and rock outcrop

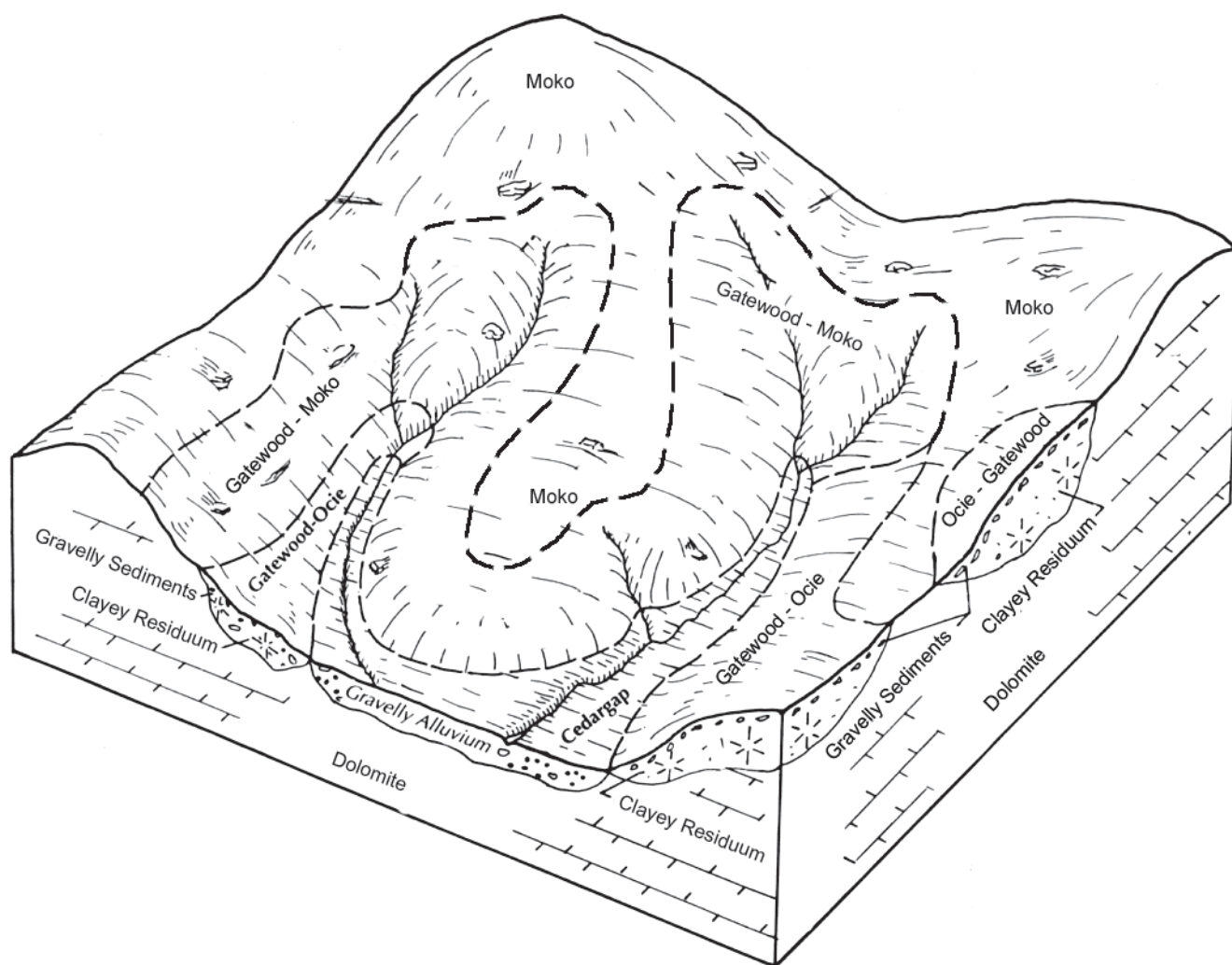


Figure 4.—Typical pattern of soils and parent material in the Gatewood-Moko association.

**Landscape**

Gatewood and Moko—narrow ridgetops, shoulder slopes, and backslopes

**Parent Material**

Gatewood and Moko—hillslope sediments over residuum

**Slope Range**

- 3 to 35 percent

**4. Alred-Gatewood-Ocie Association****Composition**

Extent of the association in the survey area: 32 percent

Extent of the components in the association (fig. 3, fig. 6):

Alred and similar soils—36 percent  
Gatewood and similar soils—21 percent  
Ocie and similar soils—17 percent  
Soils of minor extent—26 percent

**Components of Minor Extent**

- Bendavis, Cedargap, Pomme, Mano, and Moko soils and rock outcrop

**Landscape**

Alred, Gatewood, and Ocie—shoulder slopes and backslopes

**Parent Material**

Alred, Gatewood, and Ocie—hillslope sediments over residuum

**Slope Range**

- 8 to 35 percent

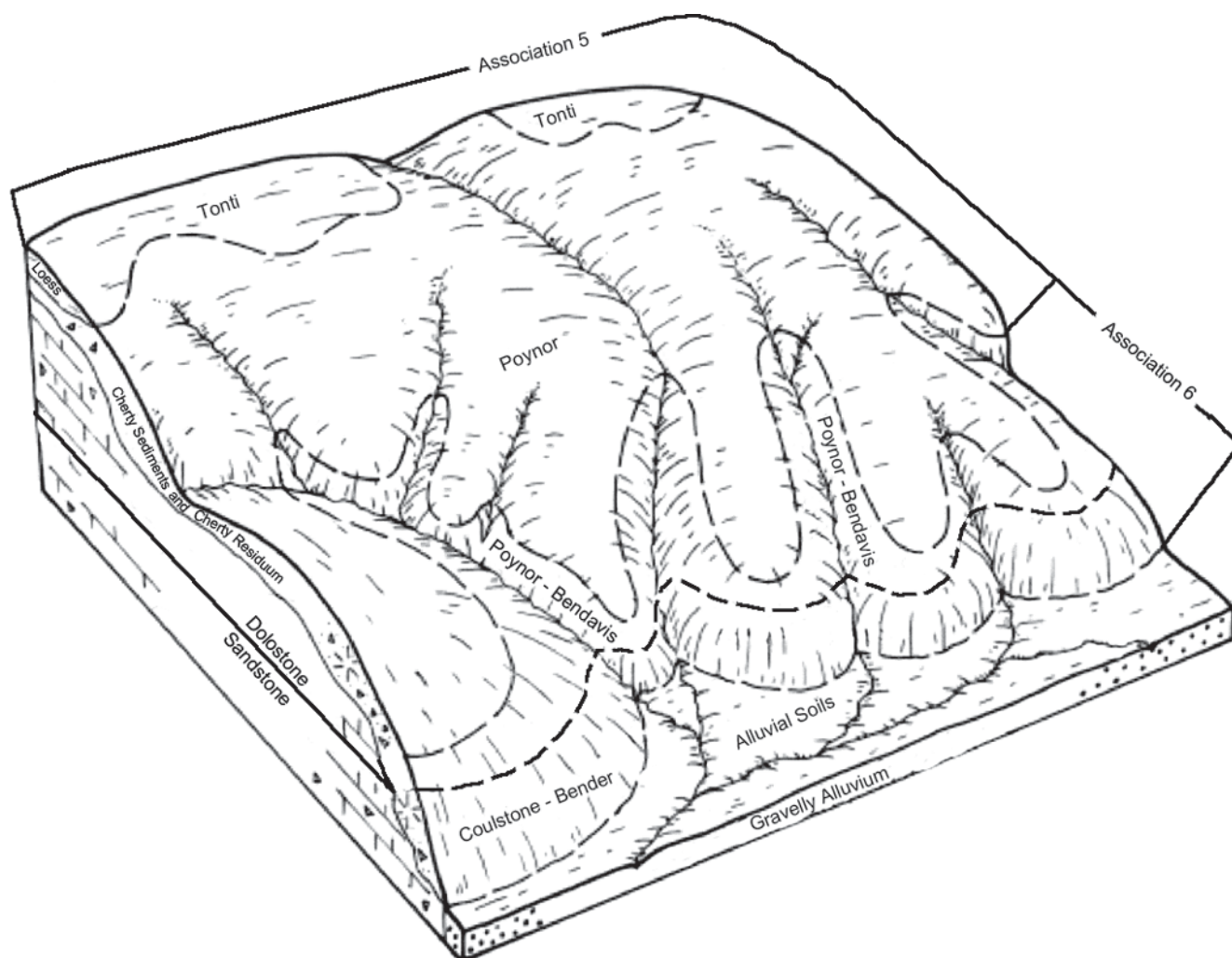


Figure 5.—Typical pattern of soils and parent material in the Poynor-Tonti and Coulstone-Poynor-Bender associations.



## 5. Poynor-Tonti Association

### Composition

*Extent of the association in the survey area:* 8 percent

*Extent of the components in the association (fig. 5):*

Poynor and similar soils—75 percent

Tonti and similar soils—13 percent

Soils of minor extent—12 percent

### Soils of Minor Extent

- Bendavis, Fanchon, Poynor (karst), Scholten, and Splitlimb

### Landscape

Poynor and Tonti—narrow ridgetops and shoulder slopes

### Parent Material

Poynor and Tonti—hillslope sediments over residuum

### Slope Range

- 1 to 15 percent

## 6. Coulstone-Poynor-Bender Association

### Composition

*Extent of the association in the survey area:* 10 percent

*Extent of the components in the association (fig. 5):*

Coulstone and similar soils—36 percent

Poynor and similar soils—21 percent

Bender and similar soils—17 percent

Soils of minor extent—26 percent

### Soils of Minor Extent

- Bendavis, Mano, Ocie, and Scholten

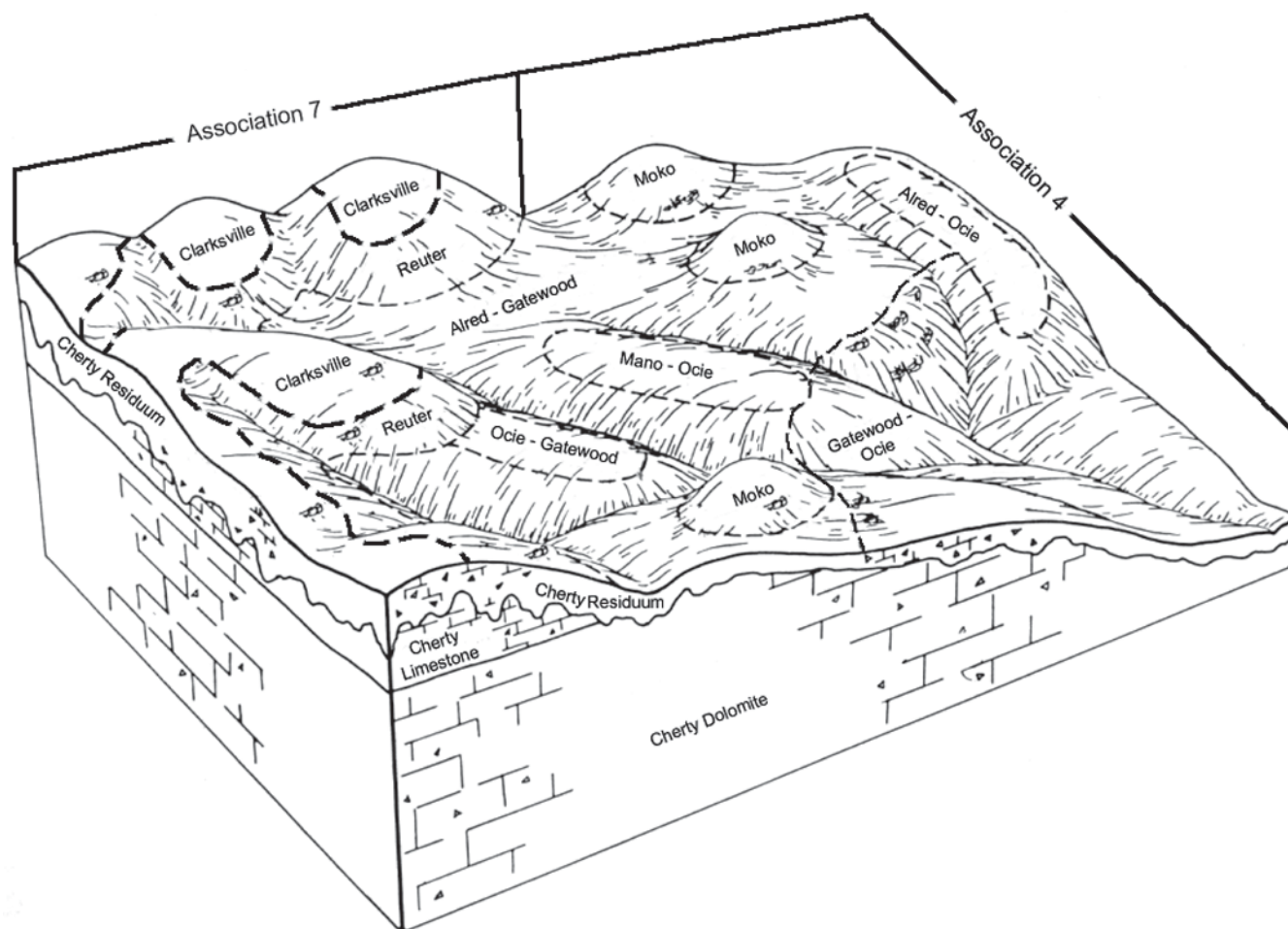


Figure 6.—Typical pattern of soils and parent material in the Rueter-Rock outcrop-Clarksville and Alred-Gatewood-Ocie associations.

***Landscape***

Coulstone, Poynor, and Bender—shoulder slopes and backslopes

***Parent Material***

Coulstone, Poynor, and Bender—hillslope sediments over residuum

***Slope Range***

- 8 to 35 percent

**7. Rueter-Rock Outcrop-Clarksville Association**

***Composition***

*Extent of the association in the survey area:* 2 percent  
*Extent of the components in the association (fig. 6):*  
Rueter and similar soils—50 percent

Rock outcrop—18 percent  
Clarksville and similar soils—17 percent  
Soils of minor extent—15 percent

***Soils of Minor Extent***

- Alred, Gatewood, and Moko

***Landscape***

Narrow ridgetops, shoulder slopes, and backslopes

***Parent Material and Type of Rock Outcrop***

Rueter and Clarksville—hillslope sediments over residuum  
Rock outcrop—dolostone

***Slope Range***

- 3 to 50 percent

## Detailed Soil Map Units

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The map units delineated on the detailed soil maps in this survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this section, along with the maps, can be used to determine the suitability and potential of a unit for specific uses. They also can be used to plan the management needed for those uses.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. The contrasting components are mentioned in the map unit descriptions. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to

make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives the principal hazards and limitations to be considered in planning for specific uses.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Tonti silt loam, 1 to 3 percent slopes, is a phase of the Tonti series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are called complexes. A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Mano-Ocie complex, 8 to 15 percent slopes, stony, is an example.

This survey includes *miscellaneous areas*. Such

areas have little or no soil material and support little or no vegetation. Map unit 99002, Borrow areas, is an example.

Table 4 gives the acreage and proportionate extent of each map unit. Other tables give properties of the soils and the limitations, capabilities, and potentials for many uses. The Glossary defines many of the terms used in describing the soils or miscellaneous areas.

### **70026—Tonti silt loam, 1 to 3 percent slopes**

#### ***Map Unit Setting***

*Landform:* Hills

#### ***Component Description***

##### **Tonti**

*Percent of the map unit:* 85 percent

*Position on the landform:* Summits

*Parent material:* Loess over gravelly slope alluvium over clayey residuum derived from dolostone

*Slope shape:* Convex

#### ***Component Properties and Qualities***

*Depth to bedrock:* Very deep (more than 60 inches)

*Surface runoff class:* Low

*Depth to restrictive feature:* 13 to 25 inches to a fragipan

#### ***Component Hydrologic Properties***

*Flooding:* None

*Current depth to water table:* 11 to 28 inches

*Drainage class:* Moderately well drained

#### ***Typical Profile***

Ap—0 to 8 inches; silt loam

Bt—8 to 20 inches; gravelly silty clay loam

2Btx—20 to 34 inches; very gravelly silt loam

3Bt—34 to 80 inches; very gravelly clay

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

#### ***Minor Components***

##### **Scholten and similar soils**

*Estimated percent of the map unit:* 0 to 5 percent

##### **Fanchon and similar soils**

*Estimated percent of the map unit:* 0 to 5 percent

##### **Poynor and similar soils**

*Estimated percent of the map unit:* 0 to 5 percent

### **73000—Pomme silt loam, 3 to 8 percent slopes**

#### ***Map Unit Setting***

*Landform:* Footslopes

#### ***Component Description***

##### **Pomme**

*Percent of the map unit:* 85 percent

*Parent material:* Loess over loamy slope alluvium

*Slope shape:* Convex

#### ***Component Properties and Qualities***

*Depth to bedrock:* Very deep (more than 60 inches)

*Surface runoff class:* Medium

#### ***Component Hydrologic Properties***

*Flooding:* None

*Current depth to water table:* More than 6 feet

*Drainage class:* Well drained

#### ***Typical Profile***

Ap—0 to 7 inches; silt loam

Bt1—7 to 19 inches; silty clay loam

2Bt2—19 to 57 inches; very gravelly silty clay loam

3Bt3—57 to 80 inches; clay

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

#### ***Minor Components***

##### **Poynor and similar soils**

*Estimated percent of the map unit:* 0 to 5 percent

##### **Viraton and similar soils**

*Estimated percent of the map unit:* 0 to 5 percent

##### **Severely eroded areas**

*Estimated percent of the map unit:* 0 to 5 percent

##### **Wasola and similar soils**

*Estimated percent of the map unit:* 0 to 5 percent

##### **Alred and similar soils**

*Estimated percent of the map unit:* 0 to 5 percent

**73015—Viraton silt loam, 1 to 3 percent slopes****Map Unit Setting***Landform:* Hills**Component Description****Viraton***Percent of the map unit:* 85 percent*Position on the landform:* Summits*Parent material:* Loamy slope alluvium over clayey residuum derived from dolostone*Slope shape:* Convex**Component Properties and Qualities***Depth to bedrock:* Very deep (more than 60 inches)*Surface runoff class:* Low*Depth to restrictive feature:* 16 to 41 inches to a fragipan**Component Hydrologic Properties***Flooding:* None*Current depth to water table:* 14 to 39 inches*Drainage class:* Moderately well drained**Typical Profile**

Ap—0 to 3 inches; silt loam

E—3 to 7 inches; silt loam

Bt—7 to 23 inches; gravelly silty clay loam

2Btx—23 to 48 inches; extremely gravelly silt loam

3Bt—48 to 80 inches; clay

Detailed profile descriptions are given in the "Classification of the Soils" section. Additional information is provided in the tables described under the heading "Soil Properties."

**Minor Components****Gressy and similar soils***Estimated percent of the map unit:* 0 to 15 percent**Ocie and similar soils***Estimated percent of the map unit:* 0 to 10 percent**Mano and similar soils***Estimated percent of the map unit:* 0 to 10 percent**Jerktail and similar soils***Estimated percent of the map unit:* 0 to 10 percent**Alred and similar soils***Estimated percent of the map unit:* 0 to 10 percent**73017—Bendavis-Poynor complex, 15 to 50 percent slopes, rocky, very stony****Map Unit Setting***Landform:* Hills**Component Description****Bendavis***Percent of the map unit:* 70 percent*Position on the landform:* Backslopes*Parent material:* Gravelly slope alluvium*Slope shape:* Convex**Component Properties and Qualities***Depth to bedrock:* Moderately deep (20 to 40 inches)*Surface runoff class:* Very high*Percent of surface covered by rock fragments:* 0.10 to 3.0 percent (subangular stones)*Depth to restrictive feature:* 20 to 40 inches to bedrock (lithic)**Component Hydrologic Properties***Flooding:* None*Current depth to water table:* 18 to 36 inches*Drainage class:* Moderately well drained**Typical Profile**

A—0 to 3 inches; very gravelly silt loam

E—3 to 14 inches; very gravelly silt loam

Bt—14 to 34 inches; very gravelly silt loam

2R—34 to 80 inches; bedrock

Detailed profile descriptions are given in the "Classification of the Soils" section. Additional information is provided in the tables described under the heading "Soil Properties."

**Poynor***Percent of the map unit:* 20 percent*Position on the landform:* Backslopes*Parent material:* Gravelly slope alluvium over clayey residuum derived from dolostone*Slope shape:* Convex**Component Properties and Qualities***Depth to bedrock:* Very deep (more than 60 inches)*Surface runoff class:* Very high*Percent of surface covered by rock fragments:* 0 to 3 percent (subangular stones)*Depth to restrictive feature:* 15 to 39 inches to strongly contrasting textural stratification

**Component Hydrologic Properties***Flooding:* None*Current depth to water table:* More than 6 feet*Drainage class:* Well drained**Typical Profile**

A—0 to 4 inches; very gravelly silt loam

E—4 to 10 inches; very gravelly silt loam

Bt1—10 to 28 inches; very gravelly silt loam

2Bt2—28 to 80 inches; clay

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

**Minor Components****Rock outcrop***Estimated percent of the map unit:* 0 to 10 percent**Clarksville and similar soils***Estimated percent of the map unit:* 0 to 5 percent**Scholten and similar soils***Estimated percent of the map unit:* 2 percent**Areas that have stones and boulders on the surface***Estimated percent of the map unit:* 0 to 5 percent**73019—Poynor very gravelly silt loam, 1 to 8 percent slopes****Map Unit Setting***Landform:* Hills**Component Description****Poynor***Percent of the map unit:* 90 percent*Position on the landform:* Summits*Parent material:* Gravelly slope alluvium over clayey residuum derived from dolostone*Slope shape:* Convex**Component Properties and Qualities***Depth to bedrock:* Very deep (more than 60 inches)*Surface runoff class:* Medium*Depth to restrictive feature:* 15 to 39 inches to strongly contrasting textural stratification**Component Hydrologic Properties***Flooding:* None*Current depth to water table:* More than 6 feet*Drainage class:* Well drained**Typical Profile**

A—0 to 4 inches; very gravelly silt loam

E—4 to 10 inches; very gravelly silt loam

Bt1—10 to 28 inches; very gravelly silty clay loam

2Bt2—28 to 80 inches; clay

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

**Minor Components****Scholten and similar soils***Estimated percent of the map unit:* 0 to 10 percent**Bendavis and similar soils***Estimated percent of the map unit:* 0 to 5 percent**Fanchon and similar soils***Estimated percent of the map unit:* 0 to 10 percent**Clarksville and similar soils***Estimated percent of the map unit:* 0 to 5 percent**Tonti and similar soils***Estimated percent of the map unit:* 0 to 5 percent**73023—Mano-Ocie complex, 1 to 8 percent slopes****Map Unit Setting***Landform:* Hills**Component Description****Mano***Percent of the map unit:* 65 percent*Position on the landform:* Summits*Parent material:* Gravelly slope alluvium over clayey residuum derived from dolostone*Slope shape:* Convex**Component Properties and Qualities***Depth to bedrock:* Very deep (more than 60 inches)*Surface runoff class:* Medium*Depth to restrictive feature:* 15 to 39 inches to strongly contrasting textural stratification**Component Hydrologic Properties***Flooding:* None



*Current depth to water table:* 24 to 36 inches

*Drainage class:* Moderately well drained

#### **Typical Profile**

A—0 to 3 inches; gravelly silt loam

E—3 to 13 inches; very gravelly silt loam

Bt—13 to 33 inches; very gravelly silt loam

2Bt—33 to 80 inches; clay

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

#### **Ocie**

*Percent of the map unit:* 25 percent

*Position on the landform:* Summits

*Parent material:* Gravelly slope alluvium over clayey residuum derived from dolostone

*Slope shape:* Convex

#### **Component Properties and Qualities**

*Depth to bedrock:* Deep (40 to 60 inches)

*Surface runoff class:* Medium

*Depth to restrictive feature:* 15 to 39 inches to strongly contrasting textural stratification; 40 to 60 inches to bedrock (lithic)

#### **Component Hydrologic Properties**

*Flooding:* None

*Current depth to water table:* 24 to 36 inches

*Drainage class:* Moderately well drained

#### **Typical Profile**

A—0 to 5 inches; very gravelly silt loam

E—5 to 11 inches; very gravelly silt loam

Bt—11 to 24 inches; very gravelly silty clay loam

2Bt—24 to 56 inches; clay

3R—56 to 80 inches; bedrock

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

#### **Minor Components**

##### **Gatewood and similar soils**

*Estimated percent of the map unit:* 0 to 5 percent

##### **Bendavis and similar soils**

*Estimated percent of the map unit:* 0 to 5 percent

##### **Viraton and similar soils**

*Estimated percent of the map unit:* 0 to 5 percent

##### **Gressy and similar soils**

*Estimated percent of the map unit:* 0 to 5 percent

##### **Jerktail and similar soils**

*Estimated percent of the map unit:* 0 to 5 percent

##### **Alred and similar soils**

*Estimated percent of the map unit:* 0 to 5 percent

### **73024—Mano-Ocie complex, 8 to 15 percent slopes, stony**

#### **Map Unit Setting**

*Landform:* Hills

#### **Component Description**

##### **Mano**

*Percent of the map unit:* 55 percent

*Position on the landform:* Shoulders

*Parent material:* Gravelly slope alluvium over clayey residuum derived from dolostone

*Slope shape:* Convex

#### **Component Properties and Qualities**

*Depth to bedrock:* Very deep (more than 60 inches)

*Surface runoff class:* High

*Percent of surface covered by rock fragments:* 0 to 3 percent (subangular stones)

*Depth to restrictive feature:* 15 to 39 inches to strongly contrasting textural stratification

#### **Component Hydrologic Properties**

*Flooding:* None

*Current depth to water table:* 24 to 36 inches

*Drainage class:* Moderately well drained

#### **Typical Profile**

A—0 to 3 inches; very gravelly silt loam

E—3 to 13 inches; very gravelly silt loam

Bt1—13 to 33 inches; very gravelly silt loam

2Bt2—33 to 80 inches; clay

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

**Ocie**

*Percent of the map unit:* 35 percent

*Position on the landform:* Shoulders

*Parent material:* Gravelly slope alluvium over clayey residuum derived from dolostone

*Slope shape:* Convex

**Component Properties and Qualities**

*Depth to bedrock:* Deep (40 to 60 inches)

*Surface runoff class:* High

*Percent of surface covered by rock fragments:* 0 to 3 percent (subangular stones)

*Depth to restrictive feature:* 15 to 39 inches to strongly contrasting textural stratification; 40 to 60 inches to bedrock (lithic)

**Component Hydrologic Properties**

*Flooding:* None

*Current depth to water table:* 24 to 36 inches

*Drainage class:* Moderately well drained

**Typical Profile**

A—0 to 5 inches; very gravelly silt loam

E—5 to 11 inches; very gravelly silt loam

Bt1—11 to 24 inches; very gravelly silt loam

2Bt2—24 to 56 inches; gravelly clay

3R—56 to 80 inches; bedrock

Detailed profile descriptions are given in the "Classification of the Soils" section. Additional information is provided in the tables described under the heading "Soil Properties."

**Minor Components****Bendavis and similar soils**

*Estimated percent of the map unit:* 0 to 5 percent

**Gatewood and similar soils**

*Estimated percent of the map unit:* 0 to 5 percent

**Rueter and similar soils**

*Estimated percent of the map unit:* 0 to 5 percent

**Gressy and similar soils**

*Estimated percent of the map unit:* 0 to 5 percent

**Alred and similar soils**

*Estimated percent of the map unit:* 0 to 5 percent

**73069—Tick extremely gravelly silt loam, 15 to 50 percent slopes, very stony****Map Unit Setting**

*Landform:* Hills

**Component Description****Tick**

*Percent of the map unit:* 85 percent

*Position on the landform:* Backslopes

*Parent material:* Silty slope alluvium over clayey residuum derived from mudstone

*Slope shape:* Convex

**Component Properties and Qualities**

*Depth to bedrock:* Very deep (more than 60 inches)

*Surface runoff class:* Very high

*Percent of surface covered by rock fragments:* 0 to 0.10 percent (subrounded stones)

*Depth to restrictive feature:* 22 to 80 inches to dense material

**Component Hydrologic Properties**

*Flooding:* None

*Current depth to water table:* More than 6 feet

*Drainage class:* Well drained

**Typical Profile**

Oe—0 to 1 inch; moderately decomposed plant material

A—1 to 5 inches; extremely gravelly silt loam

E—5 to 10 inches; very gravelly silt loam

Bt1—10 to 18 inches; silty clay loam

Bt2—18 to 42 inches; clay

2Cd—42 to 80 inches; clay

Detailed profile descriptions are given in the "Classification of the Soils" section. Additional information is provided in the tables described under the heading "Soil Properties."

**Minor Components****Poynor and similar soils**

*Estimated percent of the map unit:* 0 to 10 percent

**Rueter and similar soils**

*Estimated percent of the map unit:* 0 to 10 percent

**Clarksville and similar soils**

*Estimated percent of the map unit:* 0 to 10 percent

**Alred and similar soils**

*Estimated percent of the map unit:* 0 to 5 percent

**Ocie and similar soils**

*Estimated percent of the map unit:* 0 to 5 percent

### **73073—Scholten-Poynor complex, 8 to 15 percent slopes**

#### ***Map Unit Setting***

*Landform:* Hills

#### ***Component Description***

**Scholten**

*Percent of the map unit:* 50 percent

*Position on the landform:* Backslopes

*Parent material:* Gravelly slope alluvium over clayey residuum derived from dolostone

*Slope shape:* Linear

#### **Component Properties and Qualities**

*Depth to bedrock:* Very deep (more than 60 inches)

*Surface runoff class:* High

*Percent of surface covered by rock fragments:* 0 to 0.60 percent (subangular cobbles)

*Depth to restrictive feature:* 7 to 31 inches to a fragipan

#### **Component Hydrologic Properties**

*Flooding:* None

*Current depth to water table:* 5 to 29 inches

*Drainage class:* Moderately well drained

#### **Typical Profile**

Ap—0 to 7 inches; very gravelly silt loam

Bt—7 to 21 inches; very gravelly silt loam

2Btx—21 to 34 inches; extremely gravelly silt loam

3Bt—34 to 80 inches; gravelly clay

Detailed profile descriptions are given in the "Classification of the Soils" section. Additional information is provided in the tables described under the heading "Soil Properties."

**Poynor**

*Percent of the map unit:* 35 percent

*Position on the landform:* Backslopes

*Parent material:* Gravelly slope alluvium over clayey residuum derived from dolostone

*Slope shape:* Convex

#### **Component Properties and Qualities**

*Depth to bedrock:* Very deep (more than 60 inches)

*Surface runoff class:* High

*Percent of surface covered by rock fragments:* 0 to 0.60 percent (subangular cobbles)

*Depth to restrictive feature:* 15 to 39 inches to strongly contrasting textural stratification

#### **Component Hydrologic Properties**

*Flooding:* None

*Current depth to water table:* More than 6 feet

*Drainage class:* Well drained

#### **Typical Profile**

Ap—0 to 4 inches; very gravelly silt loam

E—4 to 10 inches; very gravelly silt loam

Bt1—10 to 28 inches; very gravelly silty clay loam

2Bt2—28 to 80 inches; clay

Detailed profile descriptions are given in the "Classification of the Soils" section. Additional information is provided in the tables described under the heading "Soil Properties."

#### **Minor Components**

**Tonti and similar soils**

*Estimated percent of the map unit:* 0 to 10 percent

**Clarksville and similar soils**

*Estimated percent of the map unit:* 0 to 10 percent

**Fanchon and similar soils**

*Estimated percent of the map unit:* 0 to 10 percent

**Bendavis and similar soils**

*Estimated percent of the map unit:* 0 to 10 percent

### **73076—Mano-Ocie complex, 15 to 35 percent slopes, stony**

#### ***Map Unit Setting***

*Landform:* Hills

#### ***Component Description***

**Mano**

*Percent of the map unit:* 50 percent

*Position on the landform:* Backslopes

*Parent material:* Gravelly slope alluvium over clayey residuum derived from dolostone

*Slope shape:* Convex

#### **Component Properties and Qualities**

*Depth to bedrock:* Very deep (more than 60 inches)

*Surface runoff class:* Very high

*Percent of surface covered by rock fragments:* 0 to 3 percent (subangular stones)

*Depth to restrictive feature:* 15 to 39 inches to strongly contrasting textural stratification

#### **Component Hydrologic Properties**

*Flooding:* None

*Current depth to water table:* 24 to 36 inches

*Drainage class:* Moderately well drained

#### **Typical Profile**

A—0 to 3 inches; very gravelly silt loam

E—3 to 13 inches; very gravelly silt loam

Bt1—13 to 33 inches; very gravelly silt loam

2Bt2—33 to 80 inches; clay

Detailed profile descriptions are given in the "Classification of the Soils" section. Additional information is provided in the tables described under the heading "Soil Properties."

#### **Ocie**

*Percent of the map unit:* 35 percent

*Position on the landform:* Backslopes

*Parent material:* Gravelly slope alluvium over clayey residuum derived from dolostone

*Slope shape:* Convex

#### **Component Properties and Qualities**

*Depth to bedrock:* Deep (40 to 60 inches)

*Surface runoff class:* Very high

*Percent of surface covered by rock fragments:* 0 to 3 percent (subangular stones)

*Depth to restrictive feature:* 15 to 39 inches to strongly contrasting textural stratification; 40 to 60 inches to bedrock (lithic)

#### **Component Hydrologic Properties**

*Flooding:* None

*Current depth to water table:* 24 to 36 inches

*Drainage class:* Moderately well drained

#### **Typical Profile**

A—0 to 5 inches; very gravelly silt loam

E—5 to 11 inches; very gravelly silt loam

Bt1—11 to 24 inches; very gravelly silt loam

2Bt2—24 to 56 inches; gravelly clay

3R—56 to 80 inches; bedrock

Detailed profile descriptions are given in the "Classification of the Soils" section. Additional information is provided in the tables described under the heading "Soil Properties."

### **Minor Components**

#### **Gatewood and similar soils**

*Estimated percent of the map unit:* 0 to 10 percent

#### **Bendavis and similar soils**

*Estimated percent of the map unit:* 0 to 5 percent

#### **Areas that have boulders on the surface**

*Estimated percent of the map unit:* 0 to 5 percent

#### **Rueter and similar soils**

*Estimated percent of the map unit:* 0 to 5 percent

#### **Alred and similar soils**

*Estimated percent of the map unit:* 0 to 5 percent

### **73198—Gressy-Viraton complex, 3 to 8 percent slopes**

#### **Map Unit Setting**

*Landform:* Hills

#### **Component Description**

##### **Gressy**

*Percent of the map unit:* 50 percent

*Position on the landform:* Summits

*Parent material:* Silty slope alluvium over gravelly slope alluvium over clayey residuum derived from dolostone

*Slope shape:* Convex

#### **Component Properties and Qualities**

*Depth to bedrock:* Very deep (more than 60 inches)

*Surface runoff class:* Medium

#### **Component Hydrologic Properties**

*Flooding:* None

*Current depth to water table:* More than 6 feet

*Drainage class:* Well drained

#### **Typical Profile**

Ap—0 to 7 inches; silt loam

Bt1—7 to 31 inches; silt loam

2Bt2—31 to 49 inches; gravelly clay loam

3Bt3—49 to 80 inches; gravelly clay

Detailed profile descriptions are given in the "Classification of the Soils" section. Additional information is provided in the tables described under the heading "Soil Properties."

**Viraton***Percent of the map unit:* 40 percent*Position on the landform:* Summits*Parent material:* Loamy slope alluvium over clayey residuum derived from dolostone*Slope shape:* Convex**Component Properties and Qualities***Depth to bedrock:* Very deep (more than 60 inches)*Surface runoff class:* Medium*Depth to restrictive feature:* 16 to 41 inches to a fragipan**Component Hydrologic Properties***Flooding:* None*Current depth to water table:* 14 to 39 inches*Drainage class:* Moderately well drained**Typical Profile**

Ap—0 to 3 inches; silt loam

E—3 to 7 inches; silt loam

Bt—7 to 23 inches; gravelly silty clay loam

2Btx—23 to 48 inches; extremely gravelly silt loam

3Bt—48 to 80 inches; clay

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

**Minor Components****Alred and similar soils***Estimated percent of the map unit:* 0 to 5 percent**Wasola and similar soils***Percent of the map unit:* 0 to 5 percent**Splitlimb and similar soils***Estimated percent of the map unit:* 0 to 5 percent**Mano and similar soils***Estimated percent of the map unit:* 0 to 5 percent**73199—Moko-Rock outcrop complex, 3 to 15 percent slopes, very flaggy****Map Unit Setting***Landform:* Hills**Component Description****Moko***Percent of the map unit:* 70 percent*Position on the landform:* Backslopes*Parent material:* Gravelly residuum derived from dolostone*Slope shape:* Convex**Component Properties and Qualities***Depth to bedrock:* Very shallow and shallow (4 to 20 inches)*Surface runoff class:* Very high*Percent of surface covered by rock fragments:* 0 to 3 percent (subangular flagstones)*Depth to restrictive feature:* 6 to 20 inches to bedrock (lithic)**Component Hydrologic Properties***Flooding:* None*Current depth to water table:* More than 6 feet*Drainage class:* Somewhat excessively drained**Typical Profile**

A1—0 to 7 inches; extremely flaggy loam

A2—7 to 12 inches; extremely flaggy silt loam

2R—12 to 80 inches; bedrock

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

**Rock outcrop***Percent of the map unit:* 20 percent**Minor Components****Gatewood and similar soils***Estimated percent of the map unit:* 0 to 15 percent**73220—Poynor extremely gravelly silt loam, 8 to 15 percent slopes****Map Unit Setting***Landform:* Hills**Component Description****Poynor***Percent of the map unit:* 85 percent*Position on the landform:* Shoulders*Parent material:* Gravelly slope alluvium over clayey residuum derived from dolostone*Slope shape:* Convex**Component Properties and Qualities***Depth to bedrock:* Very deep (more than 60 inches)



*Surface runoff class:* High

*Depth to restrictive feature:* 15 to 39 inches to strongly contrasting textural stratification

#### **Component Hydrologic Properties**

*Flooding:* None

*Current depth to water table:* More than 6 feet

*Drainage class:* Well drained

#### **Typical Profile**

Ap—0 to 4 inches; extremely gravelly silt loam

E—4 to 10 inches; very gravelly silt loam

Bt1—10 to 28 inches; very gravelly silty clay loam

2Bt2—28 to 80 inches; clay

Detailed profile descriptions are given in the "Classification of the Soils" section. Additional information is provided in the tables described under the heading "Soil Properties."

#### **Minor Components**

##### **Scholten and similar soils**

*Estimated percent of the map unit:* 0 to 5 percent

##### **Bendavis and similar soils**

*Estimated percent of the map unit:* 0 to 15 percent

##### **Clarksville and similar soils**

*Estimated percent of the map unit:* 0 to 5 percent

#### **73221—Poynor very gravelly silt loam, karst, 3 to 35 percent slopes, stony**

##### **Map Unit Setting**

*Landform:* Sinkholes

##### **Component Description**

##### **Poynor**

*Percent of the map unit:* 85 percent

*Position on the landform:* Backslopes

*Parent material:* Gravelly slope alluvium over clayey residuum derived from dolostone

*Slope shape:* Convex

##### **Component Properties and Qualities**

*Depth to bedrock:* Very deep (more than 60 inches)

*Surface runoff class:* Very high

*Percent of surface covered by rock fragments:* 0 to 3 percent (subangular stones)

*Depth to restrictive feature:* 15 to 39 inches to strongly contrasting textural stratification

#### **Component Hydrologic Properties**

*Flooding:* None

*Current depth to water table:* More than 6 feet

*Drainage class:* Well drained

#### **Typical Profile**

Ap—0 to 4 inches; very gravelly silt loam

E—4 to 10 inches; very gravelly silt loam

Bt1—10 to 28 inches; very gravelly silt loam

2Bt2—28 to 80 inches; clay

Detailed profile descriptions are given in the "Classification of the Soils" section. Additional information is provided in the tables described under the heading "Soil Properties."

#### **Minor Components**

##### **Bendavis and similar soils**

*Estimated percent of the map unit:* 0 to 10 percent

##### **Clarksville and similar soils**

*Estimated percent of the map unit:* 0 to 5 percent

##### **Splitlimb and similar soils**

*Estimated percent of the map unit:* 0 to 5 percent

##### **Scholten and similar soils**

*Estimated percent of the map unit:* 0 to 5 percent

##### **Rock outcrop**

*Estimated percent of the map unit:* 0 to 5 percent

#### **73222—Splitlimb silt loam, 0 to 3 percent slopes, frequently ponded**

##### **Map Unit Setting**

*Landform:* Sinkholes

##### **Component Description**

##### **Splitlimb**

*Percent of the map unit:* 85 percent

*Position on the landform:* Basins

*Parent material:* Silty loess over silty slope alluvium

*Slope shape:* Concave

##### **Component Properties and Qualities**

*Depth to bedrock:* Very deep (more than 60 inches)

*Surface runoff class:* Negligible

##### **Component Hydrologic Properties**

*Flooding:* None



*Current depth to water table:* 0 to 21 inches

*Drainage class:* Somewhat poorly drained

### **Typical Profile**

Ap—0 to 10 inches; silt loam

Bt1—10 to 20 inches; silt loam

Bt2—20 to 29 inches; silt loam

2Bt3—29 to 80 inches; silty clay loam

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

### **Minor Components**

#### **Tonti and similar soils**

*Estimated percent of the map unit:* 0 to 10 percent

#### **Fanchon and similar soils**

*Estimated percent of the map unit:* 0 to 10 percent

#### **Poynor and similar soils**

*Estimated percent of the map unit:* 0 to 10 percent

## **73223—Coulstone-Bender complex, 15 to 50 percent slopes, very stony**

### **Map Unit Setting**

*Landform:* Hills

### **Component Description**

#### **Coulstone**

*Percent of the map unit:* 50 percent

*Position on the landform:* Backslopes

*Parent material:* Gravelly slope alluvium derived from sandstone

*Slope shape:* Convex

### **Component Properties and Qualities**

*Depth to bedrock:* Very deep (more than 60 inches)

*Surface runoff class:* Very high

*Percent of surface covered by rock fragments:* 0 to 10 percent (subrounded stones)

### **Component Hydrologic Properties**

*Flooding:* None

*Current depth to water table:* More than 6 feet

*Drainage class:* Somewhat excessively drained

### **Typical Profile**

Oe—0 to 1 inch; moderately decomposed plant material

A—1 to 6 inches; extremely cobbly sandy loam

Bt1—6 to 29 inches; extremely cobbly sandy loam

2Bt2—29 to 42 inches; extremely stony sandy loam

3Bt3—42 to 80 inches; extremely stony clay loam

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

### **Bender**

*Percent of the map unit:* 35 percent

*Position on the landform:* Backslopes

*Parent material:* Gravelly slope alluvium derived from sandstone

*Slope shape:* Convex

### **Component Properties and Qualities**

*Depth to bedrock:* Moderately deep (20 to 40 inches)

*Surface runoff class:* Very high

*Percent of surface covered by rock fragments:* 0 to 10 percent (angular flagstones)

*Depth to restrictive feature:* 20 to 39 inches to bedrock (lithic)

### **Component Hydrologic Properties**

*Flooding:* None

*Current depth to water table:* More than 6 feet

*Drainage class:* Somewhat excessively drained

### **Typical Profile**

Oe—0 to 1 inch; moderately decomposed plant material

A—1 to 5 inches; extremely cobbly sandy loam

Bt1—5 to 21 inches; extremely cobbly sandy loam

Bt2—21 to 31 inches; extremely stony sandy loam

2R—31 to 80 inches; bedrock

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

### **Minor Components**

#### **Poynor and similar soils**

*Estimated percent of the map unit:* 0 to 5 percent

#### **Bendavis and similar soils**

*Estimated percent of the map unit:* 0 to 5 percent

#### **Clarksville and similar soils**

*Estimated percent of the map unit:* 0 to 5 percent

#### **Rock outcrop**

*Estimated percent of the map unit:* 0 to 5 percent

**Vertical bluffs**

*Estimated percent of the map unit: 0 to 5 percent*

**73224—Moko-Rock outcrop complex, 15 to 35 percent slopes, extremely flaggy**

***Map Unit Setting***

*Landform: Hills*

***Component Description***

**Moko**

*Percent of the map unit: 50 percent*

*Position on the landform: Backslopes*

*Parent material: Gravelly residuum derived from dolostone*

*Slope shape: Convex*

***Component Properties and Qualities***

*Depth to bedrock: Very shallow and shallow (4 to 20 inches)*

*Surface runoff class: Very high*

*Percent of surface covered by rock fragments: 0 to 10 percent (angular flagstones)*

*Depth to restrictive feature: 6 to 20 inches to bedrock (lithic)*

***Component Hydrologic Properties***

*Flooding: None*

*Current depth to water table: More than 6 feet*

*Drainage class: Somewhat excessively drained*

***Typical Profile***

A1—0 to 7 inches; extremely flaggy loam

A2—7 to 12 inches; extremely flaggy silt loam

2R—12 to 80 inches; bedrock

Detailed profile descriptions are given in the "Classification of the Soils" section. Additional information is provided in the tables described under the heading "Soil Properties."

**Rock outcrop**

*Percent of the map unit: 40 percent*

***Minor Components***

**Gatewood and similar soils**

*Estimated percent of the map unit: 0 to 15 percent*

**73225—Ocie-Gatewood complex, 3 to 8 percent slopes**

***Map Unit Setting***

*Landform: Hills*

***Component Description***

**Ocie**

*Percent of the map unit: 55 percent*

*Position on the landform: Summits*

*Parent material: Gravelly slope alluvium over clayey residuum derived from dolostone*

*Slope shape: Convex*

***Component Properties and Qualities***

*Depth to bedrock: Deep (40 to 60 inches)*

*Surface runoff class: High*

*Depth to restrictive feature: 15 to 39 inches to strongly contrasting textural stratification; 40 to 60 inches to bedrock (lithic)*

***Component Hydrologic Properties***

*Flooding: None*

*Current depth to water table: 24 to 36 inches*

*Drainage class: Moderately well drained*

***Typical Profile***

A—0 to 5 inches; very gravelly silt loam

E—5 to 11 inches; very gravelly silt loam

Bt1—11 to 24 inches; very gravelly silt loam

2Bt2—24 to 56 inches; gravelly clay

3R—56 to 80 inches; bedrock

Detailed profile descriptions are given in the "Classification of the Soils" section. Additional information is provided in the tables described under the heading "Soil Properties."

**Gatewood**

*Percent of the map unit: 30 percent*

*Position on the landform: Summits*

*Parent material: Gravelly slope alluvium over clayey residuum derived from dolostone*

*Slope shape: Convex*

***Component Properties and Qualities***

*Depth to bedrock: Moderately deep (20 to 40 inches)*

*Surface runoff class: High*

*Depth to restrictive feature: 20 to 40 inches to bedrock (lithic)*

**Component Hydrologic Properties***Flooding:* None*Current depth to water table:* 18 to 36 inches*Drainage class:* Moderately well drained**Typical Profile**

A—0 to 2 inches; very gravelly silt loam

E—2 to 5 inches; very gravelly silt loam

2Bt—5 to 36 inches; clay

3R—36 to 80 inches; bedrock

Detailed profile descriptions are given in the "Classification of the Soils" section. Additional information is provided in the tables described under the heading "Soil Properties."

**Minor Components****Mano and similar soils***Estimated percent of the map unit:* 0 to 10 percent**Moko and similar soils***Estimated percent of the map unit:* 0 to 10 percent**Jerktail and similar soils***Estimated percent of the map unit:* 0 to 10 percent**Gressy and similar soils***Estimated percent of the map unit:* 0 to 5 percent**Viraton and similar soils***Estimated percent of the map unit:* 0 to 5 percent**73226—Ocie-Gatewood complex, 3 to 15 percent slopes, stony****Map Unit Setting***Landform:* Hills**Component Description****Ocie***Percent of the map unit:* 50 percent*Position on the landform:* Backslopes*Parent material:* Gravelly slope alluvium over clayey residuum derived from dolostone*Slope shape:* Convex**Component Properties and Qualities***Depth to bedrock:* Deep (40 to 60 inches)*Surface runoff class:* High*Percent of surface covered by rock fragments:* 0 to 3 percent (subrounded stones)*Depth to restrictive feature:* 40 to 60 inches to bedrock (lithic)**Component Hydrologic Properties***Flooding:* None*Current depth to water table:* 24 to 36 inches*Drainage class:* Moderately well drained**Typical Profile**

A—0 to 5 inches; very gravelly silt loam

E—5 to 11 inches; very gravelly silt loam

Bt1—11 to 24 inches; very gravelly silt loam

2Bt2—24 to 56 inches; gravelly clay

3R—56 to 80 inches; bedrock

Detailed profile descriptions are given in the "Classification of the Soils" section. Additional information is provided in the tables described under the heading "Soil Properties."

**Gatewood***Percent of the map unit:* 40 percent*Position on the landform:* Backslopes*Parent material:* Gravelly slope alluvium over clayey residuum derived from dolostone*Slope shape:* Convex**Component Properties and Qualities***Depth to bedrock:* Moderately deep (20 to 40 inches)*Surface runoff class:* High*Percent of surface covered by rock fragments:* 0 to 3 percent (subrounded stones)*Depth to restrictive feature:* 20 to 40 inches to bedrock (lithic)**Component Hydrologic Properties***Flooding:* None*Current depth to water table:* 18 to 36 inches*Drainage class:* Moderately well drained**Typical Profile**

A—0 to 2 inches; very gravelly silt loam

E—2 to 5 inches; very gravelly silt loam

2Bt—5 to 36 inches; clay

3R—36 to 80 inches; bedrock

Detailed profile descriptions are given in the "Classification of the Soils" section. Additional information is provided in the tables described under the heading "Soil Properties."

### **Minor Components**

#### **Moko and similar soils**

*Estimated percent of the map unit:* 0 to 10 percent

#### **Mano and similar soils**

*Estimated percent of the map unit:* 0 to 10 percent

#### **Rock outcrop**

*Estimated percent of the map unit:* 0 to 2 percent

### **73227—Ocie-Gatewood complex, 15 to 35 percent slopes, very stony**

#### **Map Unit Setting**

*Landform:* Hills

#### **Component Description**

##### **Ocie**

*Percent of the map unit:* 45 percent

*Position on the landform:* Backslopes

*Parent material:* Gravelly slope alluvium over clayey residuum derived from dolostone

*Slope shape:* Convex

#### **Component Properties and Qualities**

*Depth to bedrock:* Deep (40 to 60 inches)

*Surface runoff class:* Very high

*Percent of surface covered by rock fragments:* 0 to 10 percent (subrounded stones)

*Depth to restrictive feature:* 40 to 60 inches to bedrock (lithic)

#### **Component Hydrologic Properties**

*Flooding:* None

*Current depth to water table:* 24 to 36 inches

*Drainage class:* Moderately well drained

#### **Typical Profile**

A—0 to 5 inches; very gravelly silt loam

E—5 to 11 inches; very gravelly silt loam

Bt1—11 to 24 inches; very gravelly silt loam

2Bt2—24 to 56 inches; gravelly clay

3R—56 to 80 inches; unweathered bedrock

Detailed profile descriptions are given in the "Classification of the Soils" section. Additional information is provided in the tables described under the heading "Soil Properties."

##### **Gatewood**

*Percent of the map unit:* 35 percent

*Position on the landform:* Backslopes

*Parent material:* Gravelly slope alluvium over clayey residuum derived from dolostone

*Slope shape:* Convex

#### **Component Properties and Qualities**

*Depth to bedrock:* Moderately deep (20 to 40 inches)

*Surface runoff class:* Very high

*Percent of surface covered by rock fragments:* 0 to 10 percent (subrounded stones)

*Depth to restrictive feature:* 20 to 40 inches to bedrock (lithic)

#### **Component Hydrologic Properties**

*Flooding:* None

*Current depth to water table:* 18 to 36 inches

*Drainage class:* Moderately well drained

#### **Typical Profile**

A—0 to 2 inches; very gravelly silt loam

E—2 to 5 inches; very gravelly silt loam

2Bt—5 to 36 inches; clay

3R—36 to 80 inches; unweathered bedrock

Detailed profile descriptions are given in the "Classification of the Soils" section. Additional information is provided in the tables described under the heading "Soil Properties."

### **Minor Components**

#### **Steeper areas and bluffs**

*Estimated percent of the map unit:* 0 to 10 percent

#### **Mano and similar soils**

*Estimated percent of the map unit:* 0 to 5 percent

#### **Moko and similar soils**

*Estimated percent of the map unit:* 0 to 5 percent

#### **Rock outcrop**

*Estimated percent of the map unit:* 0 to 5 percent

### **73228—Gatewood-Moko complex, 3 to 15 percent slopes, very rocky, very flaggy**

#### **Map Unit Setting**

*Landform:* Hills

#### **Component Description**

##### **Gatewood**

*Percent of the map unit:* 60 percent

*Position on the landform:* Shoulders

*Parent material:* Gravelly slope alluvium over clayey residuum derived from dolostone

*Slope shape:* Convex

#### **Component Properties and Qualities**

*Depth to bedrock:* Moderately deep (20 to 40 inches)

*Surface runoff class:* High

*Percent of surface covered by rock fragments:* 0 to 10 percent (angular flagstones)

*Depth to restrictive feature:* 20 to 40 inches to bedrock (lithic)

#### **Component Hydrologic Properties**

*Flooding:* None

*Current depth to water table:* 18 to 36 inches

*Drainage class:* Moderately well drained

#### **Typical Profile**

A—0 to 2 inches; very gravelly silt loam

E—2 to 5 inches; very gravelly silt loam

2Bt—5 to 36 inches; clay

3R—36 to 80 inches; bedrock

Detailed profile descriptions are given in the "Classification of the Soils" section. Additional information is provided in the tables described under the heading "Soil Properties."

#### **Moko**

*Percent of the map unit:* 25 percent

*Position on the landform:* Shoulders

*Parent material:* Gravelly residuum derived from dolostone

*Slope shape:* Convex

#### **Component Properties and Qualities**

*Depth to bedrock:* Very shallow and shallow (4 to 20 inches)

*Surface runoff class:* High

*Percent of surface covered by rock fragments:* 0 to 10 percent (angular flagstones)

*Depth to restrictive feature:* 6 to 20 inches to bedrock (lithic)

#### **Component Hydrologic Properties**

*Flooding:* None

*Current depth to water table:* More than 6 feet

*Drainage class:* Somewhat excessively drained

#### **Typical Profile**

A1—0 to 7 inches; very gravelly silt loam

A2—7 to 12 inches; extremely flaggy silt loam

2R—12 to 80 inches; bedrock

Detailed profile descriptions are given in the

"Classification of the Soils" section. Additional information is provided in the tables described under the heading "Soil Properties."

#### **Minor Components**

##### **Ocie and similar soils**

*Estimated percent of the map unit:* 0 to 15 percent

##### **Mano and similar soils**

*Estimated percent of the map unit:* 0 to 5 percent

##### **Gressy and similar soils**

*Estimated percent of the map unit:* 0 to 5 percent

##### **Rock outcrop**

*Estimated percent of the map unit:* 0 to 10 percent

### **73229—Gatewood-Moko complex, 15 to 35 percent slopes, very rocky, very flaggy**

#### **Map Unit Setting**

*Landform:* Hills

#### **Component Description**

##### **Gatewood**

*Percent of the map unit:* 55 percent

*Position on the landform:* Backslopes

*Parent material:* Gravelly slope alluvium over clayey residuum derived from dolostone

*Slope shape:* Convex

#### **Component Properties and Qualities**

*Depth to bedrock:* Moderately deep (20 to 40 inches)

*Surface runoff class:* Very high

*Percent of surface covered by rock fragments:* 0 to 10 percent (angular flagstones)

*Depth to restrictive feature:* 20 to 40 inches to bedrock (lithic)

#### **Component Hydrologic Properties**

*Flooding:* None

*Current depth to water table:* 18 to 36 inches

*Drainage class:* Moderately well drained

#### **Typical Profile**

A—0 to 2 inches; extremely gravelly silt loam

E—2 to 5 inches; very gravelly silt loam

2Bt—5 to 36 inches; clay

3R—36 to 80 inches; bedrock

Detailed profile descriptions are given in the "Classification of the Soils" section. Additional



information is provided in the tables described under the heading "Soil Properties."

### **Moko**

*Percent of the map unit:* 30 percent

*Position on the landform:* Backslopes

*Parent material:* Gravelly residuum derived from dolostone

*Slope shape:* Convex

#### **Component Properties and Qualities**

*Depth to bedrock:* Very shallow and shallow (4 to 20 inches)

*Surface runoff class:* Very high

*Percent of surface covered by rock fragments:* 0 to 10 percent (angular flagstones)

*Depth to restrictive feature:* 6 to 20 inches to bedrock (lithic)

#### **Component Hydrologic Properties**

*Flooding:* None

*Current depth to water table:* More than 6 feet

*Drainage class:* Somewhat excessively drained

#### **Typical Profile**

A1—0 to 7 inches; very gravelly silt loam

A2—7 to 12 inches; extremely flaggy silt loam

2R—12 to 80 inches; bedrock

Detailed profile descriptions are given in the "Classification of the Soils" section. Additional information is provided in the tables described under the heading "Soil Properties."

### **Minor Components**

#### **Ocie and similar soils**

*Estimated percent of the map unit:* 0 to 10 percent

#### **Mano and similar soils**

*Estimated percent of the map unit:* 0 to 5 percent

#### **Rock outcrop**

*Estimated percent of the map unit:* 0 to 10 percent

### **73230—Coulstone-Bender-Gatewood complex, 15 to 60 percent slopes, rocky, very stony**

#### **Map Unit Setting**

*Landform:* Hills (fig. 7)

### **Component Description**

#### **Coulstone**

*Percent of the map unit:* 40 percent

*Position on the landform:* Backslopes

*Parent material:* Gravelly slope alluvium derived from sandstone

*Slope shape:* Convex

#### **Component Properties and Qualities**

*Depth to bedrock:* Very deep (more than 60 inches)

*Surface runoff class:* Very high

*Percent of surface covered by rock fragments:* 0 to 10 percent (subrounded stones)

#### **Component Hydrologic Properties**

*Flooding:* None

*Current depth to water table:* More than 6 feet

*Drainage class:* Somewhat excessively drained

#### **Typical Profile**

Oe—0 to 1 inch; moderately decomposed plant material

A—1 to 6 inches; extremely cobbly sandy loam

Bt1—6 to 29 inches; extremely gravelly sandy loam

2Bt2—29 to 42 inches; extremely stony sandy loam

3Bt3—42 to 80 inches; extremely stony clay loam

Detailed profile descriptions are given in the "Classification of the Soils" section. Additional information is provided in the tables described under the heading "Soil Properties."

#### **Bender**

*Percent of the map unit:* 25 percent

*Position on the landform:* Backslopes

*Parent material:* Gravelly slope alluvium derived from sandstone

*Slope shape:* Convex

#### **Component Properties and Qualities**

*Depth to bedrock:* Moderately deep (20 to 40 inches)

*Surface runoff class:* Very high

*Percent of surface covered by rock fragments:* 0 to 10 percent (subangular stones)

*Depth to restrictive feature:* 20 to 40 inches to bedrock (lithic)

#### **Component Hydrologic Properties**

*Flooding:* None

*Current depth to water table:* More than 6 feet

*Drainage class:* Somewhat excessively drained





Figure 7.—Steep slopes and areas of rock outcrop limit most uses of Coulstone-Bender-Gatewood complex, 15 to 60 percent slopes, rocky, very stony.

#### Typical Profile

Oe—0 to 1 inch; moderately decomposed plant material

A—1 to 5 inches; extremely cobbly sandy loam

Bt1—5 to 21 inches; extremely cobbly sandy loam

Bt2—21 to 31 inches; extremely stony sandy loam

2R—31 to 80 inches; bedrock

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

#### Gatewood

*Percent of the map unit:* 20 percent

*Position on the landform:* Backslopes

*Parent material:* Gravelly slope alluvium over clayey residuum derived from dolostone

*Slope shape:* Convex

#### Component Properties and Qualities

*Depth to bedrock:* Moderately deep (20 to 40 inches)

*Surface runoff class:* Very high

*Percent of surface covered by rock fragments:* 0 to 10 percent (subangular stones)

*Depth to restrictive feature:* 20 to 40 inches to bedrock (lithic)

#### Component Hydrologic Properties

*Flooding:* None

*Current depth to water table:* 18 to 36 inches

*Drainage class:* Moderately well drained

#### Typical Profile

A—0 to 2 inches; extremely gravelly silt loam

E—2 to 5 inches; very gravelly silt loam

2Bt—5 to 36 inches; clay

3R—36 to 80 inches; bedrock

Detailed profile descriptions are given in the "Classification of the Soils" section. Additional information is provided in the tables described under the heading "Soil Properties."

### **Minor Components**

#### **Alred and similar soils**

*Estimated percent of the map unit: 0 to 5 percent*

#### **Rock outcrop**

*Estimated percent of the map unit: 0 to 5 percent*

#### **Bendavis and similar soils**

*Estimated percent of the map unit: 0 to 5 percent*

#### **Moko and similar soils**

*Estimated percent of the map unit: 0 to 5 percent*

#### **Poynor and similar soils**

*Estimated percent of the map unit: 0 to 5 percent*

#### **Clarksville and similar soils**

*Estimated percent of the map unit: 0 to 5 percent*

#### **Vertical bluffs**

*Estimated percent of the map unit: 0 to 5 percent*

### **73231—Wasola silt loam, 1 to 8 percent slopes**

#### **Map Unit Setting**

*Landform: Footslopes*

#### **Component Description**

##### **Wasola**

*Percent of the map unit: 85 percent*

*Parent material: Loamy slope alluvium*

*Slope shape: Concave*

#### **Component Properties and Qualities**

*Depth to bedrock: Very deep (more than 60 inches)*

*Surface runoff class: Medium*

#### **Component Hydrologic Properties**

*Flooding: None*

*Current depth to water table: 18 to 30 inches*

*Drainage class: Somewhat poorly drained*

#### **Typical Profile**

Ap—0 to 7 inches; silt loam

Bt—7 to 22 inches; silty clay loam

2Btx—22 to 30 inches; very gravelly silty clay loam

3Bt—30 to 80 inches; very gravelly silty clay loam

Detailed profile descriptions are given in the "Classification of the Soils" section. Additional information is provided in the tables described under the heading "Soil Properties."

### **Minor Components**

#### **Jerktail and similar soils**

*Estimated percent of the map unit: 0 to 5 percent*

#### **Mano and similar soils**

*Estimated percent of the map unit: 0 to 5 percent*

#### **Pomme and similar soils**

*Estimated percent of the map unit: 0 to 5 percent*

#### **Alred and similar soils**

*Estimated percent of the map unit: 0 to 5 percent*

### **73232—Alred-Ocie complex, 1 to 8 percent slopes**

#### **Map Unit Setting**

*Landform: Hills*

#### **Component Description**

##### **Alred**

*Percent of the map unit: 55 percent*

*Position on the landform: Summits*

*Parent material: Gravelly slope alluvium over clayey residuum derived from dolostone*

*Slope shape: Convex*

#### **Component Properties and Qualities**

*Depth to bedrock: Very deep (more than 60 inches)*

*Surface runoff class: Medium*

*Depth to restrictive feature: 15 to 39 inches to strongly contrasting textural stratification*

#### **Component Hydrologic Properties**

*Flooding: None*

*Current depth to water table: More than 6 feet*

*Drainage class: Well drained*

#### **Typical Profile**

A—0 to 3 inches; very gravelly silt loam

E—3 to 13 inches; very gravelly silt loam

Bt—13 to 33 inches; very gravelly silt loam

2Bt—33 to 80 inches; clay

Detailed profile descriptions are given in the "Classification of the Soils" section. Additional

information is provided in the tables described under the heading "Soil Properties."

### **Ocie**

*Percent of the map unit:* 30 percent

*Position on the landform:* Summits

*Parent material:* Gravelly slope alluvium over clayey residuum derived from dolostone

*Slope shape:* Convex

### **Component Properties and Qualities**

*Depth to bedrock:* Deep (40 to 60 inches)

*Surface runoff class:* Medium

*Depth to restrictive feature:* 5 to 39 inches to strongly contrasting textural stratification; 40 to 60 inches to bedrock (lithic)

### **Component Hydrologic Properties**

*Flooding:* None

*Current depth to water table:* 24 to 36 inches

*Drainage class:* Moderately well drained

### **Typical Profile**

A—0 to 5 inches; very gravelly silt loam

E—5 to 11 inches; very gravelly silt loam

Bt1—11 to 24 inches; very gravelly silt loam

2Bt2—24 to 56 inches; gravelly clay

3R—56 to 80 inches; bedrock

Detailed profile descriptions are given in the "Classification of the Soils" section. Additional information is provided in the tables described under the heading "Soil Properties."

### **Minor Components**

#### **Gressy and similar soils**

*Estimated percent of the map unit:* 0 to 10 percent

#### **Viraton and similar soils**

*Estimated percent of the map unit:* 0 to 10 percent

#### **Mano and similar soils**

*Estimated percent of the map unit:* 0 to 10 percent

## **73233—Alred-Ocie complex, 8 to 15 percent slopes**

### **Map Unit Setting**

*Landform:* Hills

### **Component Description**

#### **Alred**

*Percent of the map unit:* 55 percent

*Position on the landform:* Shoulders

*Parent material:* Gravelly slope alluvium over clayey residuum derived from dolostone

*Slope shape:* Convex

### **Component Properties and Qualities**

*Depth to bedrock:* Very deep (more than 60 inches)

*Surface runoff class:* High

*Depth to restrictive feature:* 15 to 39 inches to strongly contrasting textural stratification

### **Component Hydrologic Properties**

*Flooding:* None

*Current depth to water table:* More than 6 feet

*Drainage class:* Well drained

### **Typical Profile**

A—0 to 3 inches; very gravelly silt loam

E—3 to 13 inches; very gravelly silt loam

Bt—13 to 33 inches; very gravelly silt loam

2Bt—33 to 80 inches; clay

Detailed profile descriptions are given in the "Classification of the Soils" section. Additional information is provided in the tables described under the heading "Soil Properties."

### **Ocie**

*Percent of the map unit:* 30 percent

*Position on the landform:* Shoulders

*Parent material:* Gravelly slope alluvium over clayey residuum derived from dolostone

*Slope shape:* Convex

### **Component Properties and Qualities**

*Depth to bedrock:* Deep (40 to 60 inches)

*Surface runoff class:* High

*Depth to restrictive feature:* 15 to 39 inches to strongly contrasting textural stratification; 40 to 60 inches to bedrock (lithic)

### **Component Hydrologic Properties**

*Flooding:* None

*Current depth to water table:* 24 to 36 inches

*Drainage class:* Moderately well drained

### **Typical Profile**

A—0 to 5 inches; very gravelly silt loam

E—5 to 11 inches; very gravelly silt loam

Bt1—11 to 24 inches; very gravelly silt loam

2Bt2—24 to 56 inches; gravelly clay

3R—56 to 80 inches; bedrock

Detailed profile descriptions are given in the "Classification of the Soils" section. Additional



information is provided in the tables described under the heading "Soil Properties."

### ***Minor Components***

#### **Mano and similar soils**

*Estimated percent of the map unit:* 0 to 10 percent

#### **Gatewood and similar soils**

*Estimated percent of the map unit:* 0 to 10 percent

#### **Rueter and similar soils**

*Estimated percent of the map unit:* 0 to 10 percent

#### **Gressy and similar soils**

*Estimated percent of the map unit:* 0 to 10 percent

### **73234—Alred-Gatewood complex, 15 to 35 percent slopes, stony**

#### ***Map Unit Setting***

*Landform:* Hills

#### ***Component Description***

##### **Alred**

*Percent of the map unit:* 50 percent

*Position on the landform:* Backslopes

*Parent material:* Gravelly slope alluvium over clayey residuum derived from dolostone

*Slope shape:* Convex

#### **Component Properties and Qualities**

*Depth to bedrock:* Very deep (more than 60 inches)

*Surface runoff class:* Very high

*Percent of surface covered by rock fragments:* 0 to 3 percent (subangular stones)

*Depth to restrictive feature:* 15 to 39 inches to strongly contrasting textural stratification

#### **Component Hydrologic Properties**

*Flooding:* None

*Current depth to water table:* More than 6 feet

*Drainage class:* Well drained

#### **Typical Profile**

A—0 to 4 inches; extremely cobbly loam

E—4 to 17 inches; extremely gravelly silt loam

Bt1—17 to 27 inches; extremely cobbly silty clay loam

2Bt2—27 to 80 inches; clay

Detailed profile descriptions are given in the "Classification of the Soils" section. Additional information is provided in the tables described under the heading "Soil Properties."

#### **Gatewood**

*Percent of the map unit:* 30 percent

*Position on the landform:* Backslopes

*Parent material:* Gravelly slope alluvium over clayey residuum derived from dolostone

*Slope shape:* Convex

#### **Component Properties and Qualities**

*Depth to bedrock:* Moderately deep (20 to 40 inches)

*Surface runoff class:* Very high

*Percent of surface covered by rock fragments:* 0 to 3 percent (subangular stones)

*Depth to restrictive feature:* 20 to 40 inches to bedrock (lithic)

#### **Component Hydrologic Properties**

*Flooding:* None

*Current depth to water table:* 18 to 36 inches

*Drainage class:* Moderately well drained

#### **Typical Profile**

A—0 to 2 inches; very gravelly silt loam

E—2 to 5 inches; very gravelly silt loam

2Bt—5 to 36 inches; clay

3R—36 to 80 inches; bedrock

Detailed profile descriptions are given in the "Classification of the Soils" section. Additional information is provided in the tables described under the heading "Soil Properties."

### ***Minor Components***

#### **Mano and similar soils**

*Estimated percent of the map unit:* 0 to 10 percent

#### **Moko and similar soils**

*Estimated percent of the map unit:* 0 to 10 percent

#### **Rueter and similar soils**

*Estimated percent of the map unit:* 0 to 10 percent

#### **Bendavis and similar soils**

*Estimated percent of the map unit:* 0 to 10 percent

### **73235—Alred very gravelly silt loam, karst, 3 to 60 percent slopes, stony**

#### ***Map Unit Setting***

*Landform:* Sinkholes

#### ***Component Description***

##### **Alred**

*Percent of the map unit:* 75 percent

*Position on the landform:* Backslopes

*Parent material:* Gravelly slope alluvium over clayey residuum derived from dolostone

*Slope shape:* Convex

#### **Component Properties and Qualities**

*Depth to bedrock:* Very deep (more than 60 inches)

*Surface runoff class:* Very high

*Percent of surface covered by rock fragments:* 0 to 3 percent (subangular stones)

*Depth to restrictive feature:* 15 to 39 inches to strongly contrasting textural stratification

#### **Component Hydrologic Properties**

*Flooding:* None

*Current depth to water table:* More than 6 feet

*Drainage class:* Well drained

#### **Typical Profile**

A—0 to 4 inches; very gravelly silt loam

E—4 to 17 inches; extremely gravelly silt loam

Bt1—17 to 27 inches; extremely cobbly silty clay loam

2Bt2—27 to 80 inches; clay

Detailed profile descriptions are given in the "Classification of the Soils" section. Additional information is provided in the tables described under the heading "Soil Properties."

#### **Minor Components**

##### **Bendavis and similar soils**

*Estimated percent of the map unit:* 0 to 10 percent

##### **Ocie and similar soils**

*Estimated percent of the map unit:* 0 to 10 percent

##### **Rock outcrop**

*Estimated percent of the map unit:* 0 to 3 percent

##### **Splitlimb and similar soils**

*Estimated percent of the map unit:* 0 to 10 percent

### **73236—Scholten-Poynor complex, 3 to 8 percent slopes**

#### **Map Unit Setting**

*Landform:* Hills

#### **Component Description**

##### **Scholten**

*Percent of the map unit:* 50 percent

*Parent material:* Gravelly slope alluvium over clayey residuum derived from dolostone

*Slope shape:* Convex

#### **Component Properties and Qualities**

*Depth to bedrock:* Very deep (more than 60 inches)

*Surface runoff class:* Medium

*Depth to restrictive feature:* 7 to 31 inches to a fragipan

#### **Component Hydrologic Properties**

*Flooding:* None

*Current depth to water table:* 5 to 29 inches

*Drainage class:* Moderately well drained

#### **Typical Profile**

Ap—0 to 7 inches; very gravelly silt loam

Bt—7 to 21 inches; very gravelly silt loam

2Btx—21 to 34 inches; extremely gravelly silt loam

3Bt—34 to 80 inches; gravelly clay

Detailed profile descriptions are given in the "Classification of the Soils" section. Additional information is provided in the tables described under the heading "Soil Properties."

##### **Poynor**

*Percent of the map unit:* 35 percent

*Position on the landform:* Summits

*Parent material:* Gravelly slope alluvium over clayey residuum derived from dolostone

*Slope shape:* Linear

#### **Component Properties and Qualities**

*Depth to bedrock:* Very deep (more than 60 inches)

*Surface runoff class:* Medium

*Depth to restrictive feature:* 15 to 39 inches to strongly contrasting textural stratification

#### **Component Hydrologic Properties**

*Flooding:* None

*Current depth to water table:* More than 6 feet

*Drainage class:* Well drained

#### **Typical Profile**

Ap—0 to 4 inches; very gravelly silt loam

E—4 to 10 inches; very gravelly silt loam

Bt1—10 to 28 inches; very gravelly silt loam

2Bt2—28 to 80 inches; gravelly clay

Detailed profile descriptions are given in the "Classification of the Soils" section. Additional information is provided in the tables described under the heading "Soil Properties."

### **Minor Components**

#### **Bendavis and similar soils**

*Estimated percent of the map unit: 0 to 5 percent*

#### **Tonti and similar soils**

*Estimated percent of the map unit: 0 to 5 percent*

#### **Clarksville and similar soils**

*Estimated percent of the map unit: 0 to 5 percent*

### **73237—Clarksville very gravelly silt loam, 3 to 15 percent slopes**

#### **Map Unit Setting**

*Landform: Hills*

#### **Component Description**

##### **Clarksville**

*Percent of the map unit: 85 percent*

*Position on the landform: Backslopes*

*Parent material: Gravelly slope alluvium over gravelly residuum derived from dolostone*

*Slope shape: Convex*

#### **Component Properties and Qualities**

*Depth to bedrock: Very deep (more than 60 inches)*

*Surface runoff class: High*

#### **Component Hydrologic Properties**

*Flooding: None*

*Current depth to water table: More than 6 feet*

*Drainage class: Somewhat excessively drained*

#### **Typical Profile**

A—0 to 3 inches; very gravelly silt loam

E—3 to 14 inches; very gravelly silt loam

Bt1—14 to 45 inches; extremely cobbly loam

2Bt2—45 to 80 inches; extremely cobbly clay

Detailed profile descriptions are given in the "Classification of the Soils" section. Additional information is provided in the tables described under the heading "Soil Properties."

### **Minor Components**

#### **Poynor and similar soils**

*Estimated percent of the map unit: 0 to 10 percent*

#### **Bendavis and similar soils**

*Estimated percent of the map unit: 0 to 10 percent*

### **Areas that have stones and boulders on the surface**

*Estimated percent of the map unit: 0 to 5 percent*

#### **Rock outcrop**

*Estimated percent of the map unit: 0 to 5 percent*

### **73239—Rueter-Rock outcrop complex, 15 to 50 percent slopes, very stony**

#### **Map Unit Setting**

*Landform: Hills*

#### **Component Description**

##### **Rueter**

*Percent of the map unit: 75 percent*

*Position on the landform: Backslopes*

*Parent material: Gravelly slope alluvium over gravelly residuum derived from dolostone*

*Slope shape: Convex*

#### **Component Properties and Qualities**

*Depth to bedrock: Very deep (more than 60 inches)*

*Surface runoff class: Very high*

*Percent of surface covered by rock fragments: 0.10 to 10.0 percent (subrounded stones)*

#### **Component Hydrologic Properties**

*Flooding: None*

*Current depth to water table: More than 6 feet*

*Drainage class: Somewhat excessively drained*

#### **Typical Profile**

A—0 to 3 inches; very gravelly silt loam

E—3 to 14 inches; very gravelly silt loam

Bt1—14 to 45 inches; extremely cobbly loam

2Bt2—45 to 80 inches; extremely cobbly clay

Detailed profile descriptions are given in the "Classification of the Soils" section. Additional information is provided in the tables described under the heading "Soil Properties."

#### **Rock outcrop**

*Percent of the map unit: 15 percent*

### **Minor Components**

#### **Alred and similar soils**

*Estimated percent of the map unit: 0 to 10 percent*



**Tick and similar soils**

*Estimated percent of the map unit: 0 to 10 percent*

**Gatewood and similar soils**

*Estimated percent of the map unit: 0 to 10 percent*

**Moko and similar soils**

*Estimated percent of the map unit: 0 to 10 percent*

**73240—Jerktail silt loam, 3 to 8 percent slopes****Map Unit Setting**

*Landform: Hills*

**Component Description****Jerktail**

*Percent of the map unit: 85 percent*

*Position on the landform: Summits*

*Parent material: Silty slope alluvium over clayey residuum derived from dolostone*

*Slope shape: Convex*

**Component Properties and Qualities**

*Depth to bedrock: Very deep (more than 60 inches)*

*Surface runoff class: Medium*

*Depth to restrictive feature: 60 to 80 inches to bedrock (lithic)*

**Component Hydrologic Properties**

*Flooding: None*

*Current depth to water table: 18 to 30 inches*

*Drainage class: Somewhat poorly drained*

**Typical Profile**

Ap—0 to 6 inches; silt loam

Bt1—6 to 14 inches; silt loam

2Bt2—14 to 21 inches; gravelly silty clay loam

3Bt3—21 to 63 inches; gravelly clay

4R—63 to 80 inches; bedrock

Detailed profile descriptions are given in the "Classification of the Soils" section. Additional information is provided in the tables described under the heading "Soil Properties."

**Minor Components****Gressy and similar soils**

*Estimated percent of the map unit: 0 to 5 percent*

**Mano and similar soils**

*Estimated percent of the map unit: 0 to 5 percent*

**Viraton and similar soils**

*Estimated percent of the map unit: 0 to 5 percent*

**73242—Fanchon-Tonti complex, 3 to 8 percent slopes****Map Unit Setting**

*Landform: Ridges*

**Component Description****Fanchon**

*Percent of the map unit: 55 percent*

*Position on the landform: Summits*

*Parent material: Silty colluvial sediments over gravelly slope alluvium over clayey residuum derived from dolostone*

*Slope shape: Convex*

**Component Properties and Qualities**

*Depth to bedrock: Very deep (more than 60 inches)*

*Surface runoff class: Medium*

**Component Hydrologic Properties**

*Flooding: None*

*Current depth to water table: More than 6 feet*

*Drainage class: Well drained*

**Typical Profile**

Ap—0 to 5 inches; silt loam

AB—5 to 10 inches; silt loam

Bt1—10 to 28 inches; silt loam

2Bt2—28 to 47 inches; gravelly clay loam

3Bt3—47 to 80 inches; clay

Detailed profile descriptions are given in the "Classification of the Soils" section. Additional information is provided in the tables described under the heading "Soil Properties."

**Tonti**

*Percent of the map unit: 30 percent*

*Position on the landform: Summits*

*Parent material: Loess over gravelly slope alluvium over clayey residuum derived from dolostone*

*Slope shape: Convex*

**Component Properties and Qualities**

*Depth to bedrock: Very deep (more than 60 inches)*

*Surface runoff class: Medium*

*Depth to restrictive feature: 16 to 28 inches to a fragipan*

### Component Hydrologic Properties

*Flooding:* None

*Current depth to water table:* 14 to 26 inches

*Drainage class:* Moderately well drained

### Typical Profile

Ap—0 to 6 inches; silt loam

Bt—6 to 22 inches; silty clay loam

2Btx—22 to 35 inches; very gravelly silt loam

3Bt—35 to 80 inches; cobbly clay

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

### Minor Components

#### Scholten and similar soils

*Estimated percent of the map unit:* 0 to 10 percent

#### Poynor and similar soils

*Estimated percent of the map unit:* 0 to 10 percent

### 73243—Topazmill loam, 3 to 8 percent slopes

#### Map Unit Setting

*Landform:* Hills

#### Component Description

#### Topazmill

*Percent of the map unit:* 85 percent

*Position on the landform:* Footslopes

*Parent material:* Loamy slope alluvium derived from sandstone

*Slope shape:* Convex

#### Component Properties and Qualities

*Depth to bedrock:* Very deep (more than 60 inches)

*Surface runoff class:* Medium

#### Component Hydrologic Properties

*Flooding:* None

*Current depth to water table:* More than 6 feet

*Drainage class:* Well drained

### Typical Profile

Ap—0 to 9 inches; loam

Bt1—9 to 31 inches; loam

2Bt2—31 to 80 inches; clay loam

Detailed profile descriptions are given in the

“Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

### Minor Components

#### Pomme and similar soils

*Estimated percent of the map unit:* 0 to 15 percent

#### Zanoni and similar soils

*Estimated percent of the map unit:* 0 to 15 percent

#### Eroded areas

*Estimated percent of the map unit:* 0 to 15 percent

#### Poynor and similar soils

*Estimated percent of the map unit:* 0 to 5 percent

### 73245—Alred very gravelly silt loam, 1 to 8 percent slopes

#### Map Unit Setting

*Landform:* Hills

#### Component Description

#### Alred

*Percent of the map unit:* 85 percent

*Position on the landform:* Summits

*Parent material:* Gravelly slope alluvium over clayey residuum derived from dolostone

*Slope shape:* Convex

#### Component Properties and Qualities

*Depth to bedrock:* Very deep (more than 60 inches)

*Surface runoff class:* Medium

*Depth to restrictive feature:* 15 to 39 inches to strongly contrasting textural stratification

#### Component Hydrologic Properties

*Flooding:* None

*Current depth to water table:* More than 6 feet

*Drainage class:* Well drained

### Typical Profile

A—0 to 3 inches; very gravelly silt loam

E—3 to 13 inches; very gravelly silt loam

Bt—13 to 33 inches; very gravelly silt loam

2Bt—33 to 80 inches; clay

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

**Minor Components****Gressy and similar soils**

*Estimated percent of the map unit: 0 to 5 percent*

**Viraton and similar soils**

*Estimated percent of the map unit: 0 to 5 percent*

**Ocie and similar soils**

*Estimated percent of the map unit: 0 to 5 percent*

**73246—Alred very gravelly silt loam, 8 to 15 percent slopes****Map Unit Setting**

*Landform: Hills (fig. 8)*

**Component Description****Alred**

*Percent of the map unit: 85 percent*

*Position on the landform: Backslopes*

*Parent material: Gravelly slope alluvium over clayey residuum derived from dolostone*

*Slope shape: Convex*

**Component Properties and Qualities**

*Depth to bedrock: Very deep (more than 60 inches)*

*Surface runoff class: High*

*Depth to restrictive feature: 15 to 39 inches to strongly contrasting textural stratification*

**Component Hydrologic Properties**

*Flooding: None*

*Current depth to water table: More than 6 feet*

*Drainage class: Well drained*

**Typical Profile**

A—0 to 3 inches; very gravelly silt loam

E—3 to 13 inches; very gravelly silt loam

Bt—13 to 33 inches; very gravelly silt loam

2Bt—33 to 80 inches; clay



Figure 8.—Pastureland and timber production are typical uses in areas of Alred very gravelly silt loam, 8 to 15 percent slopes.



Detailed profile descriptions are given in the "Classification of the Soils" section. Additional information is provided in the tables described under the heading "Soil Properties."

### **Minor Components**

#### **Gressy and similar soils**

*Estimated percent of the map unit:* 0 to 5 percent

#### **Rueter and similar soils**

*Estimated percent of the map unit:* 0 to 5 percent

#### **Viraton and similar soils**

*Estimated percent of the map unit:* 0 to 5 percent

#### **Ocie and similar soils**

*Estimated percent of the map unit:* 0 to 5 percent

### **73247—Alred extremely gravelly silt loam, 15 to 35 percent slopes**

#### **Map Unit Setting**

*Landform:* Hills

#### **Component Description**

##### **Alred**

*Percent of the map unit:* 85 percent

*Position on the landform:* Backslopes

*Parent material:* Gravelly slope alluvium over clayey residuum derived from dolostone

*Slope shape:* Convex

#### **Component Properties and Qualities**

*Depth to bedrock:* Very deep (more than 60 inches)

*Surface runoff class:* Very high

*Depth to restrictive feature:* 15 to 39 inches to strongly contrasting textural stratification

#### **Component Hydrologic Properties**

*Flooding:* None

*Current depth to water table:* More than 6 feet

*Drainage class:* Well drained

#### **Typical Profile**

A—0 to 4 inches; extremely gravelly silt loam

E—4 to 17 inches; extremely gravelly silt loam

Bt1—17 to 27 inches; extremely cobbly silty clay loam

2Bt2—27 to 80 inches; clay

Detailed profile descriptions are given in the "Classification of the Soils" section. Additional information is provided in the tables described under the heading "Soil Properties."

### **Minor Components**

#### **Rueter and similar soils**

*Estimated percent of the map unit:* 0 to 15 percent

#### **Ocie and similar soils**

*Estimated percent of the map unit:* 0 to 10 percent

#### **Areas that have stones on the surface**

*Estimated percent of the map unit:* 0 to 3 percent

### **73248—Alred-Bendavis complex, 8 to 15 percent slopes**

#### **Map Unit Setting**

*Landform:* Hills

#### **Component Description**

##### **Alred**

*Percent of the map unit:* 60 percent

*Position on the landform:* Backslopes

*Parent material:* Gravelly slope alluvium over clayey residuum derived from dolostone

*Slope shape:* Convex

#### **Component Properties and Qualities**

*Depth to bedrock:* Very deep (more than 60 inches)

*Surface runoff class:* High

*Depth to restrictive feature:* 15 to 39 inches to strongly contrasting textural stratification

#### **Component Hydrologic Properties**

*Flooding:* None

*Current depth to water table:* More than 6 feet

*Drainage class:* Well drained

#### **Typical Profile**

A—0 to 4 inches; extremely cobbly loam

E—4 to 17 inches; extremely gravelly silt loam

Bt1—17 to 27 inches; extremely cobbly silty clay loam

2Bt2—27 to 80 inches; clay

Detailed profile descriptions are given in the "Classification of the Soils" section. Additional information is provided in the tables described under the heading "Soil Properties."

##### **Bendavis**

*Percent of the map unit:* 25 percent

*Position on the landform:* Backslopes

*Parent material:* Gravelly slope alluvium

*Slope shape:* Convex

**Component Properties and Qualities**

*Depth to bedrock:* Moderately deep (20 to 40 inches)

*Surface runoff class:* High

*Depth to restrictive feature:* 20 to 40 inches to bedrock (lithic)

**Component Hydrologic Properties**

*Flooding:* None

*Current depth to water table:* 18 to 38 inches

*Drainage class:* Moderately well drained

**Typical Profile**

A—0 to 5 inches; very gravelly silt loam

E—5 to 9 inches; very gravelly silt loam

Bt—9 to 25 inches; very gravelly silt loam

2R—25 to 80 inches; bedrock

Detailed profile descriptions are given in the "Classification of the Soils" section. Additional information is provided in the tables described under the heading "Soil Properties."

**Minor Components****Ocie and similar soils**

*Estimated percent of the map unit:* 0 to 5 percent

**Bender and similar soils**

*Estimated percent of the map unit:* 0 to 5 percent

**Clarksville and similar soils**

*Estimated percent of the map unit:* 0 to 5 percent

**Poynor and similar soils**

*Estimated percent of the map unit:* 0 to 5 percent

**73249—Alred-Ocie-Bendavis complex, 15 to 35 percent slopes, stony****Map Unit Setting**

*Landform:* Hills

**Component Description****Alred**

*Percent of the map unit:* 35 percent

*Position on the landform:* Backslopes

*Parent material:* Gravelly slope alluvium over clayey residuum derived from dolostone

*Slope shape:* Convex

**Component Properties and Qualities**

*Depth to bedrock:* Very deep (more than 60 inches)

*Surface runoff class:* Very high

*Percent of surface covered by rock fragments:* 0.01 to 3.0 percent (subrounded stones)

*Depth to restrictive feature:* 15 to 39 inches to strongly contrasting textural stratification

**Component Hydrologic Properties**

*Flooding:* None

*Current depth to water table:* More than 6 feet

*Drainage class:* Well drained

**Typical Profile**

A—0 to 4 inches; extremely cobbly loam

E—4 to 17 inches; extremely gravelly silt loam

Bt1—17 to 27 inches; extremely cobbly silty clay loam

2Bt2—27 to 80 inches; clay

Detailed profile descriptions are given in the "Classification of the Soils" section. Additional information is provided in the tables described under the heading "Soil Properties."

**Ocie**

*Percent of the map unit:* 30 percent

*Position on the landform:* Backslopes

*Parent material:* Gravelly slope alluvium over clayey residuum derived from dolostone

*Slope shape:* Convex

**Component Properties and Qualities**

*Depth to bedrock:* Deep (40 to 60 inches)

*Surface runoff class:* Very high

*Percent of surface covered by rock fragments:* 0.10 to 3.0 percent (subangular stones)

*Depth to restrictive feature:* 15 to 39 inches to strongly contrasting textural stratification; 40 to 60 inches to bedrock (lithic)

**Component Hydrologic Properties**

*Flooding:* None

*Current depth to water table:* 24 to 36 inches

*Drainage class:* Moderately well drained

**Typical Profile**

A—0 to 5 inches; very gravelly silt loam

E—5 to 11 inches; very gravelly silt loam

Bt1—11 to 24 inches; very gravelly silt loam

2Bt2—24 to 56 inches; gravelly clay

3R—56 to 80 inches; bedrock

Detailed profile descriptions are given in the "Classification of the Soils" section. Additional information is provided in the tables described under the heading "Soil Properties."



**Bendavis**

*Percent of the map unit:* 25 percent  
*Position on the landform:* Backslopes  
*Parent material:* Gravelly slope alluvium  
*Slope shape:* Convex

**Component Properties and Qualities**

*Depth to bedrock:* Moderately deep (20 to 40 inches)  
*Surface runoff class:* Very high  
*Percent of surface covered by rock fragments:* 0.10 to 3.0 percent (subangular stones)  
*Depth to restrictive feature:* 20 to 40 inches to bedrock (lithic)

**Component Hydrologic Properties**

*Flooding:* None  
*Current depth to water table:* 18 to 38 inches  
*Drainage class:* Moderately well drained

**Typical Profile**

A—0 to 3 inches; very gravelly silt loam  
 E—3 to 14 inches; very gravelly silt loam  
 Bt—14 to 34 inches; very gravelly silt loam  
 2R—34 to 80 inches; bedrock

Detailed profile descriptions are given in the "Classification of the Soils" section. Additional information is provided in the tables described under the heading "Soil Properties."

**Minor Components****Poynor and similar soils**

*Estimated percent of the map unit:* 0 to 10 percent

**Rock outcrop**

*Estimated percent of the map unit:* 0 to 5 percent

**Areas that have boulders on the surface**

*Estimated percent of the map unit:* 0 to 5 percent

**74626—Tanglenook silt loam, 0 to 3 percent slopes, rarely flooded****Map Unit Setting**

*Landform:* Stream terraces

**Component Description****Tanglenook**

*Percent of the map unit:* 85 percent  
*Parent material:* Silty and clayey alluvium  
*Slope shape:* Concave

**Component Properties and Qualities**

*Depth to bedrock:* Very deep (more than 60 inches)  
*Surface runoff class:* Very low

**Component Hydrologic Properties**

*Flooding:* Rare  
*Current depth to water table:* 0 to 18 inches  
*Drainage class:* Poorly drained

**Typical Profile**

Ap—0 to 6 inches; silt loam  
 A—6 to 17 inches; silty clay loam  
 Btg1—17 to 30 inches; silty clay  
 Btg2—30 to 56 inches; silty clay  
 Cg—56 to 80 inches; silty clay

Detailed profile descriptions are given in the "Classification of the Soils" section. Additional information is provided in the tables described under the heading "Soil Properties."

**Minor Components****Soils that have a very gravelly to extremely cobbly substratum**

*Estimated percent of the map unit:* 0 to 10 percent

**Soils that have less clay in the profile than the Tanglenook soil**

*Estimated percent of the map unit:* 0 to 10 percent

**Soils that have a gravelly surface layer**

*Estimated percent of the map unit:* 0 to 5 percent

**74657—Pomme silt loam, bench, 1 to 8 percent slopes****Map Unit Setting**

*Landform:* Strath terraces

**Component Description****Pomme**

*Percent of the map unit:* 80 percent  
*Position on the landform:* Backslopes  
*Parent material:* Loamy slope alluvium  
*Slope shape:* Convex

**Component Properties and Qualities**

*Depth to bedrock:* Very deep (more than 60 inches)  
*Surface runoff class:* Medium

**Component Hydrologic Properties***Flooding:* None*Current depth to water table:* More than 6 feet*Drainage class:* Well drained**Typical Profile**

Ap—0 to 7 inches; silt loam

Bt1—7 to 19 inches; silty clay loam

2Bt2—19 to 57 inches; very gravelly silty clay loam

3Bt3—57 to 86 inches; extremely gravelly clay

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

**Minor Components****Alred and similar soils***Estimated percent of the map unit:* 0 to 5 percent**Rueter and similar soils***Estimated percent of the map unit:* 0 to 5 percent**Poynor and similar soils***Estimated percent of the map unit:* 0 to 5 percent**Viraton and similar soils***Estimated percent of the map unit:* 0 to 5 percent**74658—Zanoni fine sandy loam, 1 to 3 percent slopes, rarely flooded****Map Unit Setting***Landform:* Stream terraces**Component Description****Zanoni***Percent of the map unit:* 85 percent*Parent material:* Loamy alluvium*Slope shape:* Linear**Component Properties and Qualities***Depth to bedrock:* Very deep (more than 60 inches)*Surface runoff class:* Low**Component Hydrologic Properties***Flooding:* Rare*Current depth to water table:* More than 6 feet*Drainage class:* Well drained**Typical Profile**

Ap—0 to 7 inches; fine sandy loam

Bt1—7 to 36 inches; fine sandy loam

Bt2—36 to 50 inches; sandy loam

Bt3—50 to 80 inches; stratified extremely gravelly loamy sand to gravelly loam

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

**Minor Components****Topazmill and similar soils***Estimated percent of the map unit:* 0 to 10 percent**Razort and similar soils***Estimated percent of the map unit:* 0 to 10 percent**Sandbur and similar soils***Estimated percent of the map unit:* 0 to 5 percent**Relfe and similar soils***Estimated percent of the map unit:* 0 to 5 percent**Soils that have a surface layer of loamy sand***Estimated percent of the map unit:* 0 to 2 percent**75382—Cedargap gravelly loam, 0 to 3 percent slopes, frequently flooded****Map Unit Setting***Landform:* Flood plains**Component Description****Cedargap***Percent of the map unit:* 85 percent*Parent material:* Gravelly alluvium*Slope shape:* Linear**Component Properties and Qualities***Depth to bedrock:* Very deep (more than 60 inches)*Surface runoff class:* Negligible**Component Hydrologic Properties***Flooding:* Frequent*Current depth to water table:* 48 to 72 inches*Drainage class:* Well drained**Typical Profile**

Ap—0 to 8 inches; gravelly loam

Bw—8 to 46 inches; very gravelly loam

2C—46 to 80 inches; very gravelly clay loam

Detailed profile descriptions are given in the

“Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

### **Minor Components**

#### **Racket and similar soils**

*Estimated percent of the map unit: 0 to 5 percent*

#### **Secesh and similar soils**

*Estimated percent of the map unit: 0 to 5 percent*

#### **Sandbur and similar soils**

*Estimated percent of the map unit: 0 to 5 percent*

#### **Relfe and similar soils**

*Estimated percent of the map unit: 0 to 5 percent*

#### **Soils that are wetter than the Cedargap soil and that have more clay in the subsoil**

*Estimated percent of the map unit: 0 to 5 percent*

### **75390—Razort silt loam, 0 to 3 percent slopes, rarely flooded**

#### **Map Unit Setting**

*Landform: Stream terraces*

#### **Component Description**

##### **Razort**

*Percent of the map unit: 85 percent*

*Parent material: Loamy alluvium*

*Slope shape: Linear*

#### **Component Properties and Qualities**

*Depth to bedrock: Very deep (more than 60 inches)*

*Surface runoff class: Low*

#### **Component Hydrologic Properties**

*Flooding: Rare*

*Current depth to water table: More than 6 feet*

*Drainage class: Well drained*

#### **Typical Profile**

Ap—0 to 7 inches; silt loam

Bt—7 to 34 inches; silt loam

2Bt—34 to 80 inches; gravelly loam

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

### **Minor Components**

#### **Secesh and similar soils**

*Estimated percent of the map unit: 0 to 5 percent*

#### **Zanoni and similar soils**

*Estimated percent of the map unit: 0 to 5 percent*

#### **Racket and similar soils**

*Estimated percent of the map unit: 0 to 5 percent*

### **75406—Racket loam, 0 to 3 percent slopes, frequently flooded**

#### **Map Unit Setting**

*Landform: Flood plains*

#### **Component Description**

##### **Racket**

*Percent of the map unit: 90 percent*

*Parent material: Loamy alluvium*

*Slope shape: Linear*

#### **Component Properties and Qualities**

*Depth to bedrock: Very deep (more than 60 inches)*

*Surface runoff class: Negligible*

#### **Component Hydrologic Properties**

*Flooding: Frequent*

*Current depth to water table: 48 to 72 inches*

*Drainage class: Well drained*

#### **Typical Profile**

Ap—0 to 10 inches; loam

A1—10 to 30 inches; loam

A2—30 to 45 inches; loam

2C—45 to 80 inches; stratified extremely gravelly loamy sand to gravelly sandy loam

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

### **Minor Components**

#### **Sandbur and similar soils**

*Estimated percent of the map unit: 0 to 5 percent*

#### **Relfe and similar soils**

*Estimated percent of the map unit: 0 to 5 percent*

**Secesh and similar soils***Estimated percent of the map unit: 0 to 5 percent***Cedargap and similar soils***Estimated percent of the map unit: 0 to 5 percent***75417—Relfe-Sandbur complex, 0 to 3 percent slopes, frequently flooded****Map Unit Setting***Landform: Flood plains***Component Description****Relfe***Percent of the map unit: 50 percent**Parent material: Sandy and gravelly alluvium**Slope shape: Linear***Component Properties and Qualities***Depth to bedrock: Very deep (more than 60 inches)**Surface runoff class: Negligible***Component Hydrologic Properties***Flooding: Frequent**Current depth to water table: More than 6 feet**Drainage class: Excessively drained***Typical Profile***Ap—0 to 6 inches; very gravelly sandy loam**C—6 to 80 inches; stratified extremely cobbly coarse sand to very gravelly loamy sand*

Detailed profile descriptions are given in the "Classification of the Soils" section. Additional information is provided in the tables described under the heading "Soil Properties."

**Sandbur***Percent of the map unit: 35 percent**Parent material: Loamy alluvium**Slope shape: Linear***Component Properties and Qualities***Depth to bedrock: Very deep (more than 60 inches)**Surface runoff class: Negligible***Component Hydrologic Properties***Flooding: Frequent**Current depth to water table: More than 6 feet**Drainage class: Somewhat excessively drained***Typical Profile***Ap—0 to 8 inches; fine sandy loam**C—8 to 80 inches; stratified fine sand to loamy fine sand to fine sandy loam to loam to silt loam*

Detailed profile descriptions are given in the "Classification of the Soils" section. Additional information is provided in the tables described under the heading "Soil Properties."

**Minor Components****Secesh and similar soils***Estimated percent of the map unit: 0 to 5 percent***Razort and similar soils***Estimated percent of the map unit: 0 to 5 percent***Cedargap and similar soils***Estimated percent of the map unit: 0 to 5 percent***Zanoni and similar soils***Estimated percent of the map unit: 0 to 5 percent***Racket and similar soils***Estimated percent of the map unit: 0 to 5 percent***Sand and gravel bars***Estimated percent of the map unit: 0 to 5 percent***75422—Secesh loam, 0 to 3 percent slopes, occasionally flooded****Map Unit Setting***Landform: Stream terraces***Component Description****Secesh***Percent of the map unit: 90 percent**Parent material: Loamy alluvium**Slope shape: Linear***Component Properties and Qualities***Depth to bedrock: Very deep (more than 60 inches)**Surface runoff class: Negligible***Component Hydrologic Properties***Flooding: Occasional**Current depth to water table: More than 6 feet**Drainage class: Well drained***Typical Profile***Ap—0 to 8 inches; loam**Bt1—8 to 17 inches; loam**Bt2—17 to 23 inches; loam**2Bt3—23 to 80 inches; gravelly clay loam*

Detailed profile descriptions are given in the "Classification of the Soils" section. Additional information is provided in the tables described under the heading "Soil Properties."

### **Minor Components**

#### **Racket and similar soils**

*Estimated percent of the map unit: 0 to 5 percent*

#### **Razort and similar soils**

*Estimated percent of the map unit: 0 to 5 percent*

#### **Sandbur and similar soils**

*Estimated percent of the map unit: 0 to 5 percent*

#### **Zanoni and similar soils**

*Estimated percent of the map unit: 0 to 5 percent*

#### **Cedargap and similar soils**

*Estimated percent of the map unit: 0 to 5 percent*

#### **Relfe and similar soils**

*Estimated percent of the map unit: 0 to 5 percent*

### **75423—Cedargap very gravelly silt loam, 0 to 3 percent slopes, occasionally flooded**

#### **Map Unit Setting**

*Landform: Flood plains*

#### **Component Description**

##### **Cedargap**

*Percent of the map unit: 85 percent*

*Parent material: Gravelly alluvium*

*Slope shape: Linear*

#### **Component Properties and Qualities**

*Depth to bedrock: Very deep (more than 60 inches)*

*Surface runoff class: Very low*

#### **Component Hydrologic Properties**

*Flooding: Occasional*

*Current depth to water table: More than 6 feet*

*Drainage class: Well drained*

#### **Typical Profile**

Ap—0 to 14 inches; very gravelly silt loam

A1—14 to 24 inches; extremely gravelly sandy loam

A2—24 to 49 inches; extremely gravelly sandy loam

C—49 to 80 inches; extremely gravelly sandy clay loam

Detailed profile descriptions are given in the "Classification of the Soils" section. Additional information is provided in the tables described under the heading "Soil Properties."

### **Minor Components**

#### **Relfe and similar soils**

*Estimated percent of the map unit: 0 to 5 percent*

#### **Secesh and similar soils**

*Estimated percent of the map unit: 0 to 5 percent*

#### **Sandbur and similar soils**

*Estimated percent of the map unit: 0 to 5 percent*

### **75424—Sandbur fine sandy loam, 0 to 3 percent slopes, frequently flooded**

#### **Map Unit Setting**

*Landform: Flood plains*

#### **Component Description**

##### **Sandbur**

*Percent of the map unit: 90 percent*

*Parent material: Loamy alluvium*

*Slope shape: Linear*

#### **Component Properties and Qualities**

*Depth to bedrock: Very deep (more than 60 inches)*

*Surface runoff class: Negligible*

#### **Component Hydrologic Properties**

*Flooding: Frequent*

*Current depth to water table: More than 6 feet*

*Drainage class: Somewhat excessively drained*

#### **Typical Profile**

Ap—0 to 8 inches; fine sandy loam

C—8 to 80 inches; stratified fine sand to loamy fine sand to fine sandy loam to loam to silt loam

Detailed profile descriptions are given in the "Classification of the Soils" section. Additional information is provided in the tables described under the heading "Soil Properties."

### **Minor Components**

#### **Relfe and similar soils**

*Estimated percent of the map unit: 0 to 15 percent*

#### **Gravel bars**

*Estimated percent of the map unit: 0 to 10 percent*



**Zanoni and similar soils**

*Estimated percent of the map unit: 0 to 5 percent*

**Razort and similar soils**

*Estimated percent of the map unit: 0 to 5 percent*

**Racket and similar soils**

*Estimated percent of the map unit: 0 to 5 percent*

**99001—Water*****Component Description***

- This map unit consists of naturally occurring basins of surface water, such as perennial rivers and creeks. It also includes manmade lakes and ponds that are larger than 5 acres.

**99002—Borrow areas*****Component Description***

- This map unit consists of areas from which soil and underlying material have been removed, usually for construction purposes.

*Percent of the map unit: 85 percent*

***Minor Components*****Urban land**

*Estimated percent of the map unit: 0 to 25 percent*

**Water**

*Estimated percent of the map unit: 0 to 10 percent*



# Use and Management of the Soils

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This soil survey is an inventory and evaluation of the soils in the survey area. It can be used to adjust land uses to the limitations and potentials of natural resources and the environment. Also, it can help to prevent soil-related failures in land uses.

In preparing a soil survey, soil scientists, conservationists, engineers, and others collect extensive field data about the nature and behavioral characteristics of the soils. They collect data on erosion, droughtiness, flooding, and other factors that affect various soil uses and management. Field experience and collected data on soil properties and performance are used as a basis for predicting soil behavior.

Information in this section can be used to plan the use and management of soils for crops and pasture; as forestland; as sites for buildings, sanitary facilities, highways and other transportation systems, and parks and other recreational facilities; for waste management; and for wildlife habitat. It can be used to identify the potentials and limitations of each soil for specific land uses and to help prevent construction failures caused by unfavorable soil properties.

Planners and others using soil survey information can evaluate the effect of specific land uses on productivity and on the environment. The survey can help planners to maintain or create a land use pattern that is in harmony with nature.

Contractors can use this survey to locate sources of sand and gravel, roadfill, and topsoil. They can use it to identify areas where bedrock, wetness, or very firm soil layers can cause difficulty in excavation.

Health officials, highway officials, engineers, and others may also find this survey useful. The survey can help them plan the safe disposal of wastes and locate sites for pavements, sidewalks, campgrounds, playgrounds, lawns, and trees and shrubs.

## Interpretive Ratings

The interpretive tables in this survey rate the soils in the survey area for various land uses. Many of the

tables identify the limitations that affect specified uses and indicate the severity of those limitations. The ratings in these tables are both verbal and numerical.

## Rating Class Terms

Rating classes are expressed in the tables in terms that indicate the extent to which the soils are limited or not limited by all of the soil features that affect a specified use. Terms for the limitation classes are *not limited*, *slightly limited*, *moderately limited*, *limited*, and *very limited*. In certain tables the soils are rated as *improbable*, *possible*, or *probable* sources of specific materials used for construction purposes.

## Numerical Ratings

Numerical ratings in the tables indicate the severity of individual limitations. They also indicate the overall degree to which a soil is limited or not limited for a specific use. The numerical ratings are shown as decimal fractions ranging from 0.00 to 1.00. Limitation classes are assigned as follows:

Not limited .....	0.00
Slightly limited .....	0.01 to 0.30
Moderately limited .....	0.31 to 0.60
Limited .....	0.61 to 0.99
Very limited .....	1.00

The numerical ratings used to express the severity of individual limitations indicate gradations between the point at which a soil feature has the greatest negative impact on the use and the point at which the soil feature is not a limitation.

In tables that use limitation class terms, such as *very limited* or *limited*, the limitation class terms and numerical ratings are shown for each limiting soil feature listed. As many as three soil features may be listed for each map unit component. The overall limitation rating for the component is based on the most severe limitation.

## Crops and Pasture

Greg Watkins, soil conservationist, Natural Resources Conservation Service, helped prepare this section.

General management needed for crops and pasture is suggested in this section. Prime farmland is described, the estimated yields of the main crops and pasture plants are listed, and the system of land capability classification used by the Natural Resources Conservation Service is explained.

Planners of management systems for individual fields or farms should consider the detailed information given in the description of each soil under the heading "Detailed Soil Map Units." Specific information can be obtained from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

In 1997, approximately 23,500 acres in Ozark County was used for crops or pasture. Most of that acreage was used for hay. Very few areas are used for row crops or small grain (fig. 9). About 37,000 acres was pastured woodland.

Most of the areas in the county that have been cleared of trees are used for pasture or hay. Most of the soils are not suited to intensively grown cultivated crops, mainly because of the slope, the depth to

bedrock, a high content of rock fragments, surface stones in some areas, or a combination of these. The soils that are suited to cultivated crops are on the narrow bottom lands and terraces and in a few gently sloping and moderately sloping areas on uplands.

The deep soils on bottom land and terraces, such as Cedargap, Secesh, Razort, Relfe, Sandbur, and Pomme soils, are well suited to cultivated crops, including grain sorghum and small grain. Scholten and Tonti soils are poorly suited to cultivated crops because they have a rooting depth that is restricted by a fragipan or have other properties that reduce the available water capacity.

The hazard of erosion is the main management concern if cultivated crops are grown on the upland soils, such as Ocie, Coulstone, Alred, Mano, and Poynor soils. Farming on the contour, establishing terraces or grassed waterways, and leaving crop residue on the surface throughout fall and winter help to protect these soils from erosion.

Fertility is low in most of the soils in the county. All of the soils require additions of plant food if maximum production is to be obtained. Nearly all of the soils, particularly the ones on uplands, are naturally acidic in the upper part of the root zone. Applications of ground limestone or ground dolomite are needed to raise the pH and calcium and magnesium levels and thus



Figure 9.—A few areas of Pomme silt loam, 3 to 8 percent slopes, are used for the production of field crops.

achieve good plant growth. On all soils, applications of lime and fertilizer should be based on the results of soil tests, on the needs of the crop, and on the expected level of yields.

Soil tilth is an important factor affecting seedbed preparation, the germination of seeds, and the infiltration of water into the soil. Soils that have good tilth are granular and porous. Many of the soils in the county have a surface layer of silt loam that is low or moderately low in content of organic matter. Frequent tillage tends to weaken or destroy the structure of these soils. A crust forms on the surface during periods of intensive rainfall. The crust reduces the rate of water infiltration and increases the runoff rate. Returning crop residue to the soil and adding green manure or barnyard manure improve soil structure and thus reduce the risk of crusting and increase the rate of water infiltration.

The pasture and hay crops that are suited to the soils and climate in the county include several kinds of legumes, cool-season grasses, and warm-season grasses. Alfalfa and red clover are the most common legumes grown for hay. The very deep, well drained Razort and Racket soils have a high available water capacity and either have a high content of calcium and magnesium or are adequately limed. These soils are well suited to alfalfa grown for hay. Cedargap, Secesh, Pomme, Relfe, and Sandbur soils are suited to alfalfa grown for hay. Scholten and Tonti soils that have a fragipan are better suited to clover for hay or pasture than to alfalfa. Soils in which the depth to bedrock is limited, such as Moko, Bender, and Bendavis soils, are more suited to native warm-season grass species for hay or pasture (fig. 10). If lime and fertilizer are applied, most of the soils that are suited to pasture and hay can be used for red clover or several other legumes.

Many of the soils in the county are suited to tall fescue, orchardgrass, and some other cool-season grasses. These grasses grow best in spring, in early summer, and in fall. If additional midsummer pasture or hay is needed, warm-season grasses can be grown. Very deep, well drained soils that have a high available water capacity, such as Racket and Razort soils, are well suited to warm-season grasses, such as Caucasian bluestem, big bluestem, indiangrass, and switchgrass. Soils that have a low or moderate available water capacity are suited to warm-season grasses. Examples are Ocie, Coulstone, Alred, Clarksville, Rueter, Tick, and Gressy soils. Warm-season grasses grow best in late spring, in summer, and in early fall.

A small acreage in the county is used for home

orchards or gardens. The orchards and gardens produce little cash income but are important to individual families. Many families can and freeze homegrown fruits and vegetables for home use.

## Prime Farmland

Prime farmland is one of several kinds of important farmland defined by the U.S. Department of Agriculture. It is of major importance in meeting the Nation's short- and long-range needs for food and fiber. Because the supply of high-quality farmland is limited, the U.S. Department of Agriculture recognizes that responsible levels of government, as well as individuals, should encourage and facilitate the wise use of our Nation's prime farmland.

Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, forestland, or other land, but it is not urban or built-up land or water areas. The soil qualities, growing season, and moisture supply are those needed for the soil to economically produce sustained high yields of crops when proper management, including water management, and acceptable farming methods are applied. In general, prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, an acceptable salt and sodium content, and few or no rocks. It is permeable to water and air. It is not excessively erodible or saturated with water for long periods, and it either is not frequently flooded during the growing season or is protected from flooding. Slope ranges mainly from 0 to 6 percent. More detailed information about the criteria for prime farmland is available at the local office of the Natural Resources Conservation Service.

About 30,247 acres in the county, or a little more than 6 percent of the total acreage, meets the soil requirements for prime farmland.

The map units in the survey area that are considered prime farmland are listed below. This list does not constitute a recommendation for a particular land use. On some soils included in the list, measures that overcome a hazard or limitation, such as flooding, wetness, and droughtiness, are needed. Onsite evaluation is needed to determine whether or not the hazard or limitation has been overcome by corrective measures. The extent of each listed map unit is shown in table 4. The location is shown on the detailed soil





**Figure 10.—Eastern redcedar and native warm-season grasses are the typical vegetation in areas of Moko-Rock outcrop complex, 15 to 35 percent slopes, extremely flaggy.**

maps. The soil qualities that affect use and management are described under the heading "Detailed Soil Map Units."

- 70026—Tonti silt loam, 1 to 3 percent slopes
- 73198—Gressy-Viraton complex, 3 to 8 percent slopes
- 73222—Splitlimb silt loam, 0 to 3 percent slopes, frequently ponded
- 73231—Wasola silt loam, 1 to 8 percent slopes
- 73242—Fanchon-Tonti complex, 3 to 8 percent slopes
- 73243—Topazmill loam, 3 to 8 percent slopes
- 74626—Tanglenook silt loam, 0 to 3 percent slopes, rarely flooded (where drained)
- 74657—Pomme silt loam, bench, 1 to 8 percent slopes
- 74658—Zanoni fine sandy loam, 1 to 3 percent slopes, rarely flooded

- 75390—Razort silt loam, 0 to 3 percent slopes, rarely flooded
- 75406—Racket loam, 0 to 3 percent slopes, frequently flooded (where protected from flooding or not frequently flooded during the growing season)
- 75422—Secesh loam, 0 to 3 percent slopes, occasionally flooded
- 75424—Sandbur fine sandy loam, 0 to 3 percent slopes, frequently flooded (where protected from flooding or not frequently flooded during the growing season)

### **Yields per Acre**

The average yields per acre that can be expected of the principal crops under a high level of management are shown in table 5. In any given year, yields may be higher or lower than those indicated in

the table because of variations in rainfall and other climatic factors. The land capability classification of the soils in the survey area also is shown in the table.

The yields are based mainly on the experience and records of farmers, conservationists, and extension agents. Available yield data from nearby counties and results of field trials and demonstrations also are considered.

The management needed to obtain the indicated yields of the various crops depends on the kind of soil and the crop. Management can include drainage, erosion control, and protection from flooding; the proper planting and seeding rates; suitable high-yielding crop varieties; appropriate and timely tillage; control of weeds, plant diseases, and harmful insects; favorable soil reaction and optimum levels of nitrogen, phosphorus, potassium, and trace elements for each crop; effective use of crop residue, barnyard manure, and green manure crops; and harvesting that ensures the smallest possible loss.

The estimated yields reflect the productive capacity of each soil for each of the principal crops. Yields are likely to increase as new production technology is developed. The productivity of a given soil compared with that of other soils, however, is not likely to change.

Crops other than those shown in table 5 are grown in the survey area, but estimated yields are not listed because the acreage of such crops is small. The local office of the Natural Resources Conservation Service or of the Cooperative Extension Service can provide information about the management and productivity of the soils for those crops.

## Land Capability Classification

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in grouping the soils do not include major and generally expensive landforming that would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for forestland or for engineering purposes.

In the capability system, soils are generally grouped at three levels—capability class, subclass, and unit

(USDA, 1961). Only class and subclass are used in this survey.

*Capability classes*, the broadest groups, are designated by the numbers 1 through 8. The numbers indicate progressively greater limitations and narrower choices for practical use. The classes are defined as follows:

Class 1 soils have slight limitations that restrict their use.

Class 2 soils have moderate limitations that restrict the choice of plants or that require moderate conservation practices.

Class 3 soils have severe limitations that restrict the choice of plants or that require special conservation practices, or both.

Class 4 soils have very severe limitations that restrict the choice of plants or that require very careful management, or both.

Class 5 soils are subject to little or no erosion but have other limitations, impractical to remove, that restrict their use mainly to pasture, forestland, or wildlife habitat.

Class 6 soils have severe limitations that make them generally unsuitable for cultivation and that restrict their use mainly to pasture, forestland, or wildlife habitat.

Class 7 soils have very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to grazing, forestland, or wildlife habitat.

Class 8 soils and miscellaneous areas have limitations that preclude commercial plant production and that restrict their use to recreational purposes, wildlife habitat, watershed, or esthetic purposes.

*Capability subclasses* are soil groups within one class. They are designated by adding a small letter, *e*, *w*, *s*, or *c*, to the class numeral, for example, 2*e*. The letter *e* shows that the main hazard is the risk of erosion unless close-growing plant cover is maintained; *w* shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); *s* shows that the soil is limited mainly because it is shallow, droughty, or stony; and *c*, used in only some parts of the United States, shows that the chief limitation is climate that is very cold or very dry.

In class 1 there are no subclasses because the soils of this class have few limitations. Class 5 contains only the subclasses indicated by *w*, *s*, or *c* because the soils in class 5 are subject to little or no erosion. They have other limitations that restrict their use to pasture, forestland, wildlife habitat, or recreation.

The capability classification of the soils in this survey area is given in table 5.

## Pasture and Hayland Suitability Groups

The soils in Ozark County are assigned to a pasture and hayland group according to their suitability for pasture management.

Many different pasture and hayland suitability groups are in the survey area. Over time, the combination of plants best suited to a particular soil and climate has or will become dominant. Plant communities are not static but vary slightly from year to year and from place to place.

The relationship between soils and vegetation was ascertained during this survey. Thus, pasture and hayland suitability groups generally can be determined directly from the soil map. Soil properties that affect moisture supply and plant nutrients have the greatest influence on the productivity of each plant species. Soil reaction, salt content, and a seasonal high water table also are important. The "Field Office Technical Guide," which is available at local offices of the Natural Resources Conservation Service, can provide specific information about pasture and hayland suitability groups.

Table 6 shows, for each soil, the assigned pasture and hayland suitability group. Specific concerns and recommendations affecting pasture and hayland management for each group are described in the following paragraphs.

**Group WLB—Wet Loamy Bottom.** A seasonal high water table and flooding are the main management concerns. Plants should be selected accordingly. A seedbed can be easily prepared. A drainage system can improve the growth of deep-rooted species. The hazard of flooding should be considered when a grazing system is designed.

**Group WCB—Wet Clayey Bottom.** Wetness and flooding are the main management concerns. The soils in this group are poorly suited to hay. The hazard of flooding should be considered when a grazing system is designed. Maintaining stands of desirable species is difficult in depressional areas. A drainage system can improve the growth of deep-rooted species.

**Group WCU—Wet Clayey Upland.** Wetness is the main management concern. Maintaining stands of desirable species is difficult in depressional areas. A drainage system can improve the growth of deep-rooted species.

**Group WLO—Wet Loamy Overflow.** Wetness and flooding are the main management concerns. A seedbed can be easily prepared. A drainage system can improve the growth of deep-rooted species. The hazard of flooding should be considered when a grazing system is designed.

**Group LyO—Loamy Overflow.** Flooding is the main management concern. The hazard of flooding should be considered when a grazing system is designed.

**Group LyU—Loamy Upland.** No serious concerns affect pasture and hayland management. Erosion is a hazard in newly seeded areas. Timely seedbed preparation is needed to ensure a good ground cover.

**Group CyU—Clayey Upland.** Pasture and hay crops are effective in controlling erosion. Erosion during seedbed preparation is the main concern. Timely tillage and a quickly established ground cover reduce the hazard of erosion. The forage species that are tolerant of wetness grow best. The production of deep-rooted legumes is limited because of wetness and a restricted rooting depth.

**Group GrU—Gravelly Upland.** The soils in this group generally are not suited to cultivated crops. Droughtiness and erosion are the main management concerns. Seedbeds should be prepared on the contour. Timely seedbed preparation helps to ensure rapid plant growth and a protective ground cover.

**Group MDU—Moderately Deep Upland.** Shallow-rooted species that are tolerant of droughtiness should be selected for planting. Erosion is a serious hazard in newly seeded areas. Timely tillage and a quickly established ground cover reduce the hazard of erosion.

**Group WtP—Wet Pan.** The species that are tolerant of wetness grow best. A dense layer in the subsoil can restrict the rooting depth and result in insufficient soil moisture in dry years. Erosion during seedbed preparation is the main concern. Timely tillage and a quickly established ground cover reduce the hazard of erosion.

**Group LyP—Loamy Pan.** A few small areas of this group are used for cultivated crops, and some areas are wooded. A dense layer in the subsoil can restrict the rooting depth and result in insufficient soil moisture in dry years. Erosion during seedbed preparation is a hazard. Seedbeds should be prepared on the contour. Timely tillage and a quickly established ground cover reduce the hazard of erosion.

**Group GrO—Gravelly Overflow.** Most areas of this group have been cleared of trees and are used for



pasture and hay. Proper stocking rates, pasture rotation, timely deferment of grazing, and restricted use during periods of flooding help to keep the pasture in good condition.

**Group GrP—Gravelly Pan.** If the soils in this group are used for improved pasture, chert on the surface hinders tillage. Because of seasonal droughtiness, timely planting is needed to ensure an adequate stand. Erosion is a hazard in newly seeded areas. Timely seedbed preparation helps to ensure a protective ground cover.

**Group ShU—Shallow Upland.** Most areas of this group are used for native pasture and are best suited to shallow-rooted species. In some areas tillage is nearly impossible. Broadcast seeding may be necessary. The slope and rock outcrop can hinder mowing in places.

**Group SyO—Sandy Overflow.** The soils in this group tend to be droughty because they are excessively drained, but they are also subject to flooding. Plants should be selected accordingly. A seedbed can be easily prepared. The flooding and the droughtiness should be considered when a grazing system is designed. Because the soils are subject to flooding and droughtiness at different times, a flexible grazing system is needed.

**Group GNS—Generally Not Suited.** The soils in this group generally are not suited to pasture and hay. The suitability for forage species and the use of equipment are limited by the slope, a high content of rock fragments, or both.

## Forestland Productivity and Management

The tables described in this section can help forest owners or managers plan the use of soils for wood crops. They show the potential productivity of the soils for wood crops and rate the soils according to the limitations that affect various aspects of forest management.

### Forestland Productivity

In table 7, the *potential productivity* of merchantable or *common trees* on a soil is expressed as a site index and as a volume number. The *site index* is the average height, in feet, that dominant and codominant trees of a given species attain in 50 years. The site index applies to fully stocked, even-aged, unmanaged stands. Commonly grown trees are those that forest

managers generally favor in intermediate or improvement cuttings. They are selected on the basis of growth rate, quality, value, and marketability. More detailed information regarding site index is available in the "National Forestry Manual," which is available in local offices of the Natural Resources Conservation Service or through the Agency's Website.

The *volume of wood fiber*, a number, is the yield likely to be produced by the most important tree species. This number, expressed as cubic feet per acre per year and calculated at the age of culmination of the mean annual increment (CMAI), indicates the amount of fiber produced in a fully stocked, even-aged, unmanaged stand.

*Trees to manage* are those that are preferred for planting, seeding, or natural regeneration and those that remain in the stand after thinning or partial harvest (fig. 11).

## Forestland Management

In tables 8a and 8b, interpretive ratings are given for various aspects of forest management. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the specified aspect of forest management. *Not limited* indicates that the soil has features that are very favorable for the specified aspect of management. Good performance and very low maintenance can be expected. *Slightly limited* indicates that the soil has features that are favorable for the specified aspect of management. The limitations are minor and can be easily overcome. Good performance and low maintenance can be expected. *Moderately limited* indicates that the soil has features that are moderately favorable for the specified aspect of management. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Limited* indicates that the soil has one or more features that are significant limitations for the specified aspect of management. The limitations can be overcome, but overcoming them generally requires special design, special planning, soil reclamation, specialized equipment, or other procedures that may result in additional expense. Fair performance and moderate or high maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified aspect of management. The limitations generally cannot be overcome without major soil reclamation, special design, specialized equipment, or



Figure 11.—An improved stand of mixed oak forest in an area of Alred very gravelly silt loam, 1 to 8 percent slopes.

other expensive procedures. Poor performance, unsafe conditions, or high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The numerical ratings are shown as decimal fractions ranging from 0.00 to 1.00. Limitation classes are assigned as follows:

Not limited .....	0.00
Slightly limited .....	0.01 to 0.30
Moderately limited .....	0.31 to 0.60
Limited .....	0.61 to 0.99
Very limited .....	1.00

The numerical ratings used to express the severity of individual limitations indicate gradations between the point at which a soil feature has the greatest negative impact on the use and the point at which the soil feature is not a limitation.

Limitation class terms and numerical ratings are shown for each limiting soil feature listed. As many as three soil features may be listed for each component.

The overall limitation class for the component is based on the most severe limitation.

The paragraphs that follow indicate the soil properties considered in rating the soils for forest management factors. More detailed information about the criteria used in the ratings is available in the “National Forestry Manual,” which is available in local offices of the Natural Resources Conservation Service or through the Agency’s Website.

In table 8a, ratings in the column *hand planting* are based on slope, depth to a restrictive layer, content of sand, plasticity index, rock fragments on or below the surface, depth to a water table, and ponding. Ratings indicate the expected difficulty of hand planting, which includes the proper placement of root systems of tree seedlings to a depth of up to 12 inches, using standard hand planting tools. It is assumed that necessary site preparation is completed before seedlings are planted.

Ratings in the column *mechanical planting* are based on slope, depth to a restrictive layer, content of



sand, plasticity index, rock fragments on or below the surface, depth to a water table, and ponding. Ratings indicate the expected difficulty in using a mechanical planter, which includes proper placement of root systems of tree seedlings to a depth of up to 12 inches. It is assumed that necessary site preparation is completed before seedlings are planted.

Ratings in the column *use of harvesting equipment* are based on slope, rock fragments on the surface, plasticity index, content of sand, surface texture, depth to a water table, and ponding. Ratings indicate the suitability for operating harvesting equipment for off-road transport or harvest of logs and/or wood products by ground-based wheeled or tracked equipment.

Ratings in the column *mechanical site preparation (surface)* are based on slope, depth to a restrictive layer, plasticity index, rock fragments on or below the surface, depth to a water table, and ponding. The part of the soil from the surface to a depth of about 12 inches is considered in the ratings. Ratings indicate the suitability of using surface-altering soil tillage equipment to prepare the site for planting or seeding.

Ratings in the column *roads (natural surface)* are based on slope, rock fragments on the surface, plasticity index, content of sand, surface texture, depth to a water table, ponding, flooding, and the hazard of soil slippage. The ratings indicate the suitability for using the natural surface of the soil for roads on which trucks transport logs and other wood products from the site.

In table 8b, ratings in the column *erosion on roads and trails* are based on the soil erodibility factor K, slope, and content of rock fragments. The ratings apply to unsurfaced roads and trails.

Ratings in the column *off-road or off-trail erosion* are based on slope and on the soil erodibility factor K. The soil loss is caused by sheet or rill erosion in off-road or off-trail areas where 50 to 75 percent of the surface has been exposed by logging, grazing, mining, or other kinds of disturbance.

Ratings in the column *soil rutting* are based on depth to a water table, rock fragments on or below the surface, surface texture, depth to a restrictive layer, and slope. Ruts form as a result of the operation of forest equipment. Ratings indicate limitations affecting the hazard or risk of ruts in the uppermost layers of the soil. Soil displacement and puddling (soil deformation and compaction) may occur simultaneously with the formation of ruts.

Ratings in the column *log landings* are based on slope, rock fragments on the surface, plasticity index, content of sand, surface texture, depth to a water table, ponding, flooding, and the hazard of soil slippage. Ratings indicate the suitability of the soil at

the forest site to serve as a log landing and to allow the efficient and effective use of equipment for the temporary storage and handling of logs.

Ratings in the column *seedling survival* are based on flooding, ponding, depth to a water table, content of lime, reaction, salinity, available water capacity, soil moisture regime, soil temperature regime, aspect, and slope. Ratings indicate the impact of soil, physiographic, and climatic conditions on the survivability of newly established tree seedlings.

## Windbreaks and Environmental Plantings

Windbreaks protect livestock, buildings, yards, fruit trees, gardens, and cropland from wind and snow; help to keep snow on fields; and provide food and cover for wildlife. Field windbreaks are narrow plantings made at right angles to the prevailing wind and at specific intervals across the field. The interval depends on the erodibility of the soil.

Environmental plantings help to beautify and screen houses and other buildings and to abate noise. The plants, mostly evergreen shrubs and trees, are closely spaced. To ensure plant survival, a healthy planting stock of suitable species should be planted properly on a well prepared site and maintained in good condition.

Table 9 shows the height that locally grown trees and shrubs are expected to reach in 20 years on various soils. The estimates in table 9 are based on measurements and observation of established plantings that have been given adequate care. They can be used as a guide in planning windbreaks and screens. Additional information on planning windbreaks and screens and planting and caring for trees and shrubs can be obtained from the local office of the Natural Resources Conservation Service or of the Cooperative Extension Service or from a commercial nursery.

## Recreation

The soils of the survey area are rated in table 10 according to limitations that affect their suitability for recreational uses. Soils are rated for camp areas, picnic areas, playgrounds, and paths and trails.

The ratings in the table are based on restrictive soil features, such as wetness, slope, and texture of the surface layer. Susceptibility to flooding is considered. Not considered in the ratings, but important in evaluating a site, are the location and accessibility of the area, the size and shape of the area and its scenic

quality, vegetation, access to water, potential water impoundment sites, and access to public sewer lines. The capacity of the soil to absorb septic tank effluent and the ability of the soil to support vegetation also are important. Soils that are subject to flooding are limited for recreational uses by the duration and intensity of flooding and the season when flooding occurs. In planning recreational facilities, onsite assessment of the height, duration, intensity, and frequency of flooding is essential.

The ratings in the table are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect recreational site development. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Slightly limited* indicates that the soil has features that are favorable for the specified use. The limitations are minor and can be easily overcome. Good performance and low maintenance can be expected. *Moderately limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Limited* indicates that the soil has one or more features that are significant limitations for the specified use. The limitations can be overcome, but overcoming them generally requires special design, soil reclamation, or installation procedures that may result in additional expense. Fair performance and moderate or high maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the table indicate the severity of individual limitations. The numerical ratings are shown as decimal fractions ranging from 0.00 to 1.00. Limitation classes are assigned as follows:

Not limited .....	0.00
Slightly limited .....	0.01 to 0.30
Moderately limited .....	0.31 to 0.60
Limited .....	0.61 to 0.99
Very limited .....	1.00

The numerical ratings used to express the severity of individual limitations indicate gradations between the point at which a soil feature has the greatest negative impact on the use and the point at which the soil feature is not a limitation.

Limitation class terms and numerical ratings are

shown for each limiting soil feature listed. As many as three soil features may be listed for each component. The overall limitation rating for the component is based on the most severe limitation.

The information in table 10 can be supplemented by other information in this survey, for example, interpretations for building site development, construction materials, sanitary facilities, and water management.

*Camp areas* require site preparation, such as shaping and leveling the tent and parking areas, stabilizing roads and intensively used areas, and installing sanitary facilities and utility lines. Camp areas are subject to heavy foot traffic and some vehicular traffic. The soil properties that affect the performance of the areas after development are those that influence trafficability and promote the growth of vegetation, especially in heavily used areas. For good trafficability, the surface of camp areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

*Picnic areas* are subject to heavy foot traffic. Most vehicular traffic is confined to access roads and parking areas. The ratings are based on the soil properties that affect the ease of developing picnic areas and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of picnic areas. For good trafficability, the surface of picnic areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

*Playgrounds* require soils that are nearly level, are free of stones, and can withstand intensive foot traffic. The ratings are based on the soil properties that affect the ease of developing playgrounds and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of playgrounds. For good trafficability, the surface of the playgrounds should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, a water table, ponding, flooding,

permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

*Paths and trails* for hiking and horseback riding should require little or no cutting and filling. The ratings are based on the soil properties that affect trafficability and erodibility. These properties are stoniness, a water table, ponding, flooding, slope, and texture of the surface layer. The best soils are not wet, are firm after rains, are not dusty when dry, and are not subject to frequent flooding during the period of use. They have moderate slopes and few or no stones or boulders on the surface.

## Wildlife Habitat

Danny Billings, private land conservationist, Missouri Department of Conservation, helped prepare this section.

Ozark County's terrestrial and aquatic natural communities are some of the most diverse in the state. These communities are made up of glades, savannahs, flat woods, prairies, springs, caves, fens, sinks, and cold-water streams. These unique communities add to the diversity of plants and animals in Ozark County. Some of these natural communities are undisturbed, but most are remnants. Some of the wildlife and plants that inhabit these communities are commercially valuable and others intrinsically valuable to humanity now and for future generations.

Forest wildlife, deer, turkey, and squirrels are plentiful. Bobcats, coyotes, raccoons, and fox populations are on the increase. Ozark County has the largest concentration of black bear in Missouri. These bears have migrated up from Arkansas in search of new territory. Authenticated sow and cub sightings have verified the bears' presence as a resident population.

Armadillos and roadrunners have also migrated into Ozark County because of the mild winters. Armadillos, giant Canada geese, raccoons, beaver, coyotes, and river otter populations have reached nuisance densities.

Ozark hellbenders, naturally reproducing rainbow trout, and stocked brown trout thrive in the cold spring-fed waters of the North Fork River. Ozark County's portion of the Bull Shoals Army Corps of Engineers Lake Reservoir claims the state record largemouth bass (13 lb. 4 oz.), white bass (5 lb. 5 oz.), one of the fastest growing walleye populations in the state, and the past state record smallmouth bass (7 lb.). Probably the most unique aquatic wildlife in the county or in Missouri, the United States, or North America is the

Caney Mountain crayfish. Ozark County has the only known population of this species. With two large Army Corps of Engineers lakes and numerous spring branches, creeks, and rivers, the county also has the most streambank footage of any county in the state.

Several caves, large sinkholes, and talus formations are prominent geological features of the county's landscape. The Gainesville Monadnocks is a geological upheaval of knobs or hills that rise 100 to 200 feet above the surrounding hills in the center of Ozark County. The native pioneers named this group of knobs capped with chert breccia the Caney Hills. This 5- to 7-square-mile group of hills is the largest group of monadnocks in Missouri. The northeast edge of the Boston Mountains in Arkansas can be seen from atop these 1,440-foot hills. This 75-mile visual sight plane is the longest distance one can see in Missouri.

Many of the prominent feeder stream watersheds for Bull Shoals Lake and Norfork Lake originate from the Caney Hills. Caney Creek and the Caney Hills were named for the river cane that was once prominent along these streams. River cane is a special edge habitat used by many species of wildlife. Quail, rabbits, and many songbirds prefer this riparian habitat. The Swainson's warbler nests exclusively in cane stands. River cane restoration projects initiated on public and private lands will help restore this unique vegetation along the streams and will enhance wildlife populations and help to control streambank erosion.

The Caney Mountain Conservation Area (CMTCA) was purchased in 1940 as a turkey restoration experiment and wildlife refuge. A successful restoration effort allowed deer and turkey to be trapped and relocated in other parts of the state and in other states. Because of the remote nature and rough topography of the Caney Hills, much of the timber was never commercially harvested (fig. 12). Within the CMTCA are two natural communities that have been designated as Natural Areas. The 1,400-acre Caney Mountain Natural Area has one of the best examples of a dry mesic old-growth forest in Missouri. Many of the post oaks are several hundred years old, and there are eastern redcedar trees more than 500 years old. Long Bald is a glade community with a high-quality, diverse plant and animal community. Many of the plants are associated with the tall grass prairies of the Southwest. Prickly pear cactus, pygmy rattlesnakes, collared lizards, scorpions, tarantula spiders, and roadrunners can be seen in this area. Glade and savannah natural community restoration projects have provided habitat for the federally listed Bachman's sparrow. For several years, Long Bald was the only breeding area for this sparrow in Missouri. Painted





Figure 12.—Stones and boulders are common in this area of Clarksville very gravelly silt loam, 3 to 15 percent slopes, in the Caney Mountain Wildlife Refuge.

buntings, Missouri evening primrose, purple penstemon, yellow coneflower, pink coneflower, prairie acacia, Ozark umbrella plants, and many other showy plants and wildlife species can be seen in these unique natural communities.

Remoteness, geology, and climatic conditions have contributed to the diverse wild natural resources in Ozark County. Through education and management, Ozark County landowners can play a major role in restoring and maintaining these resources.

Soils affect the kind and amount of vegetation that is available to wildlife as food and cover. They also affect the construction of water impoundments. The kind and abundance of wildlife depend largely on the amount and distribution of food, cover, and water. Wildlife habitat can be created or improved by planting appropriate vegetation, by maintaining the existing plant cover, or by promoting the natural establishment of desirable plants.

In tables 11a and 11b, the soils in the survey area

are rated according to their potential for providing habitat for various kinds of wildlife. This information can be used in planning parks, wildlife refuges, nature study areas, and other developments for wildlife; in selecting soils that are suitable for establishing, improving, or maintaining specific elements of wildlife habitat; and in determining the intensity of management needed for each element of the habitat.

The ratings in the tables are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the specified use. *Not limited* indicates that the soil has features that are very favorable for the specified use. Habitat is easily established, improved, or maintained. *Slightly limited* indicates that the soil has features that are favorable for the specified use. The limitations are minor and can be easily overcome. Habitat can be established, improved, or maintained. *Moderately limited* indicates that the soil has features that are moderately favorable for the specified use.

Habitat can be established, improved, or maintained in most places. Moderately intensive management is required for satisfactory results. *Limited* indicates that the soil has one or more features that are significant limitations for the specified use. Habitat is difficult to create, improve, or maintain in most places. Management is difficult and must be very intensive. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. Habitat is usually impractical or impossible to create, improve, or maintain. Management would be very difficult, and unsatisfactory results can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The numerical ratings are shown as decimal fractions ranging from 0.00 to 1.00. Limitation classes are assigned as follows:

Not limited .....	0.00
Slightly limited .....	0.01 to 0.30
Moderately limited .....	0.31 to 0.60
Limited .....	0.61 to 0.99
Very limited .....	1.00

The numerical ratings used to express the severity of individual limitations indicate gradations between the point at which a soil feature has the greatest negative impact on the use and the point at which the soil feature is not a limitation.

Limitation class terms and numerical ratings are shown for each limiting soil feature listed. As many as three soil features may be listed for each component. The overall limitation class for the component is based on the most severe limitation.

The elements of wildlife habitat are described in the following paragraphs.

*Grain and seed crops* are domestic grains and seed-producing herbaceous plants. Soil properties and features that affect the growth of grain and seed crops are depth of the root zone, texture of the surface layer, available water capacity, wetness, slope, surface stoniness, and flooding. Soil temperature and soil moisture also are considerations. Selection should be made from a list of locally adapted species.

*Domestic grasses and legumes* are domestic perennial grasses and herbaceous legumes. Soil properties and features that affect the growth of grasses and legumes are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, flooding, and slope. Soil temperature and soil moisture also are considerations. Selection should be made from a list of locally adapted species.

*Upland wild herbaceous plants* are native or naturally established grasses and forbs, including weeds. Soil properties and features that affect the

growth of these plants are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, and flooding. Soil temperature and soil moisture also are considerations. Selection should be made from a list of locally adapted species.

*Upland shrubs and vines* are bushy woody plants that produce fruit, buds, twigs, bark, and foliage. Soil properties and features that affect the growth of shrubs and vines are depth of the root zone, available water capacity, salinity, and soil moisture. Selection should be made from a list of locally adapted species.

*Upland deciduous trees* and woody understory produce nuts or other fruit, buds, catkins, twigs, bark, and foliage. Soil properties and features that affect the growth of hardwood trees are depth of the root zone, available water capacity, and wetness. Selection should be made from a list of locally adapted species.

*Upland mixed deciduous-conifer trees* and woody understory produce nuts or other fruit, buds, catkins, twigs, bark, browse, seeds, and foliage. Soil properties and features that affect the growth of these trees are depth of the root zone, available water capacity, and wetness. Selection should be made from a list of locally adapted species.

*Riparian herbaceous plants* are annual and perennial native or naturally established grasses and forbs that grow on moist or wet sites. Soil properties and features affecting riparian herbaceous plants are surface texture, wetness, flooding, ponding, and surface stones. Selection should be made from a list of locally adapted species.

*Riparian shrubs, vines, and trees* are bushy woody plants and trees that grow on moist or wet sites. Soil properties and features affecting these plants are surface texture, wetness, flooding, ponding, and surface stones. Selection should be made from a list of locally adapted species.

*Freshwater wetland plants* are grasses, forbs, and shrubs that are adapted to wet soil conditions. The soils suitable for this habitat generally occur adjacent to springs, seeps, depressions, areas of bottom land, marshes, or backwater areas on flood plains. Most areas are ponded for some period of time during the year. Soil properties and features affecting these plants are surface texture, wetness, ponding, and soil reaction. Selection should be made from a list of locally adapted species.

*Irrigated freshwater wetland plants* are grasses, forbs, and shrubs that are adapted to wet soil conditions. The soils suitable for this habitat generally occur in areas of cropland, in previously cropped areas, and in marginal areas associated with cropland and wetlands. These areas may be ponded for some



period of time during the year. They are generally suitable for restoring wetland features temporarily or permanently. Soil properties and features affecting these plants are surface texture, permeability, wetness, ponding, and soil reaction. Selection should be made from a list of locally adapted species.

## Engineering

This section provides information for planning land uses related to urban development and to water management. Soils are rated for various uses, and the most limiting features are identified. Ratings are given for building site development, sanitary facilities, construction materials, water management, and waste management. The ratings are based on observed performance of the soils and on the data in the tables described under the heading "Soil Properties."

*Information in this section is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil within a depth of 5 or 6 feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.*

*The information is not site specific and does not eliminate the need for onsite investigation of the soils or for testing and analysis by personnel experienced in the design and construction of engineering works.*

Government ordinances and regulations that restrict certain land uses or impose specific design criteria were not considered in preparing the information in this section. Local ordinances and regulations should be considered in planning, in site selection, and in design.

Soil properties, site features, and observed performance were considered in determining the ratings in this section. During the fieldwork for this soil survey, determinations were made about grain-size distribution, liquid limit, plasticity index, soil reaction, depth to bedrock, hardness of bedrock within 5 or 6 feet of the surface, soil wetness, depth to a seasonal high water table, slope, likelihood of flooding, natural soil structure aggregation, and soil density. Data were collected about kinds of clay minerals, mineralogy of the sand and silt fractions, and the kinds of adsorbed cations. Estimates were made for erodibility, permeability, corrosivity, shrink-swell potential, available water capacity, and other behavioral characteristics affecting engineering uses.

This information can be used to evaluate the potential of areas for residential, commercial,

industrial, and recreational uses; make preliminary estimates of construction conditions; evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; evaluate alternative sites for sanitary landfills, septic tank absorption fields, and sewage lagoons; evaluate sites for agricultural waste management; plan detailed onsite investigations of soils and geology; locate potential sources of gravel, sand, earthfill, and topsoil; plan drainage systems, irrigation systems, ponds, terraces, and other structures for soil and water conservation; and predict performance of proposed small structures and pavements by comparing the performance of existing similar structures on the same or similar soils.

The information in the tables, along with the soil maps, the soil descriptions, and other data provided in this survey, can be used to make additional interpretations.

Some of the terms used in this soil survey have a special meaning in soil science and are defined in the Glossary.

## Building Site Development

Soil properties influence the development of building sites, including the selection of the site, the design of the structure, construction, performance after construction, and maintenance. Table 12 shows the degree and kind of soil limitations that affect dwellings with and without basements, small commercial buildings, local roads and streets, and lawns and landscaping.

The ratings in the table are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect building site development. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Slightly limited* indicates that the soil has features that are favorable for the specified use. The limitations are minor and can be easily overcome. Good performance and low maintenance can be expected. *Moderately limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Limited* indicates that the soil has one or more features that are significant limitations for the specified use. The limitations can be overcome, but overcoming them generally requires special design, soil reclamation, or installation procedures that may result in additional expense. Fair

performance and moderate or high maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the table indicate the severity of individual limitations. The numerical ratings are shown as decimal fractions ranging from 0.00 to 1.00. Limitation classes are assigned as follows:

Not limited .....	0.00
Slightly limited .....	0.01 to 0.30
Moderately limited .....	0.31 to 0.60
Limited .....	0.61 to 0.99
Very limited .....	1.00

The numerical ratings used to express the severity of individual limitations indicate gradations between the point at which a soil feature has the greatest negative impact on the use and the point at which the soil feature is not a limitation.

Limitation class terms and numerical ratings are shown for each limiting soil feature listed. As many as three soil features may be listed for each component. The overall limitation rating for the component is based on the most severe limitation.

*Dwellings* are single-family houses of three stories or less. For dwellings without basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. For dwellings with basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of about 7 feet. The ratings for dwellings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility. Compressibility is inferred from the Unified classification. The properties that affect the ease and amount of excavation include a water table, ponding, flooding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

*Small commercial buildings* are structures that are less than three stories high and do not have basements. The foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. The

ratings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility (which is inferred from the Unified classification). The properties that affect the ease and amount of excavation include flooding, a water table, ponding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

*Local roads and streets* have an all-weather surface and carry automobile and light truck traffic all year. They have a subgrade of cut or fill soil material; a base of gravel, crushed rock, or soil material stabilized by lime or cement; and a surface of flexible material (asphalt), rigid material (concrete), or gravel with a binder. The ratings are based on the soil properties that affect the ease of excavation and grading and the traffic-supporting capacity. The properties that affect the ease of excavation and grading are depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, a water table, ponding, flooding, the amount of large stones, and slope. The properties that affect the traffic-supporting capacity are soil strength (as inferred from the AASHTO group index number), subsidence, linear extensibility (shrink-swell potential), the potential for frost action, a water table, and ponding.

*Lawns and landscaping* require soils on which turf and ornamental trees and shrubs can be established and maintained. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer.

## Sanitary Facilities

The soils of the survey area are rated in table 13 according to limitations that affect their suitability for sanitary facilities. Soils are rated for septic tank absorption fields, sewage lagoons, sanitary landfills, and daily cover for landfill.

The ratings in the table are both verbal and

numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect sanitary facilities. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Slightly limited* indicates that the soil has features that are favorable for the specified use. The limitations are minor and can be easily overcome. Good performance and low maintenance can be expected. *Moderately limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Limited* indicates that the soil has one or more features that are significant limitations for the specified use. The limitations can be overcome, but overcoming them generally requires special design, soil reclamation, or installation procedures that may result in additional expense. Fair performance and moderate or high maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the table indicate the severity of individual limitations. The numerical ratings are shown as decimal fractions ranging from 0.00 to 1.00. Limitation classes are assigned as follows:

Not limited .....	0.00
Slightly limited .....	0.01 to 0.30
Moderately limited .....	0.31 to 0.60
Limited .....	0.61 to 0.99
Very limited .....	1.00

The numerical ratings used to express the severity of individual limitations indicate gradations between the point at which a soil feature has the greatest negative impact on the use and the point at which the soil feature is not a limitation.

Limitation class terms and numerical ratings are shown for each limiting soil feature listed. As many as three soil features may be listed for each component. The overall limitation rating for the component is based on the most severe limitation.

*Septic tank absorption fields* are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. Only that part of the soil between depths of 24 and 60 inches is evaluated. The ratings are based on the soil properties that affect absorption of the effluent, construction and maintenance of the system, and public health.

Permeability, a water table, ponding, depth to bedrock or a cemented pan, and flooding affect absorption of the effluent. Stones and boulders, ice, and bedrock or a cemented pan interfere with installation. Subsidence interferes with installation and maintenance. Excessive slope may cause lateral seepage and surfacing of the effluent in downslope areas.

Some soils are underlain by loose sand and gravel or fractured bedrock at a depth of less than 4 feet below the distribution lines. In these soils the absorption field may not adequately filter the effluent, particularly when the system is new. As a result, the ground water may be contaminated. Unsatisfactory performance of septic tank absorption fields, including excessively slow absorption of effluent, surfacing of effluent, hillside seepage, and contamination of ground water, can affect public health.

*Sewage lagoons* are shallow ponds constructed to hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons should have a nearly level floor surrounded by cut slopes or embankments of compacted soil. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water. Considered in the ratings are slope, permeability, a water table, ponding, depth to bedrock or a cemented pan, flooding, large stones, and content of organic matter.

Soil permeability is a critical property affecting the suitability for sewage lagoons. Most porous soils eventually become sealed when they are used as sites for sewage lagoons. Until sealing occurs, however, the hazard of pollution is severe. Soils that have a permeability rate of more than 2 inches per hour are too porous for the proper functioning of sewage lagoons. In these soils, seepage of the effluent can result in contamination of the ground water. Ground-water contamination is also a hazard if fractured bedrock is within a depth of 40 inches, if the water table is high enough to raise the level of sewage in the lagoon, or if floodwater overtops the lagoon.

A high content of organic matter is detrimental to proper functioning of the lagoon because it inhibits aerobic activity. Slope, bedrock, and cemented pans can cause construction problems, and large stones can hinder compaction of the lagoon floor. If the lagoon is to be uniformly deep throughout, slope must be gentle enough and the soil material must be thick enough over bedrock or a cemented pan to make land smoothing practical.

*A trench sanitary landfill* is an area where solid waste is placed in successive layers in an excavated trench. The waste is spread, compacted, and covered daily with a thin layer of soil excavated at the site.

When the trench is full, a final cover of soil material at least 2 feet thick is placed over the landfill. The ratings in the table are based on the soil properties that affect the risk of pollution, the ease of excavation, trafficability, and revegetation. These properties include permeability, depth to bedrock or a cemented pan, a water table, ponding, slope, flooding, texture, stones and boulders, highly organic layers, soil reaction, and content of salts and sodium. Unless otherwise stated, the ratings apply only to that part of the soil within a depth of about 6 feet. For deeper trenches, onsite investigation may be needed.

Hard, nonrippable bedrock, creviced bedrock, or highly permeable strata in or directly below the proposed trench bottom can affect the ease of excavation and the hazard of ground-water pollution. Slope affects construction of the trenches and the movement of surface water around the landfill. It also affects the construction and performance of roads in areas of the landfill.

Soil texture and consistence affect the ease with which the trench is dug and the ease with which the soil can be used as daily or final cover. They determine the workability of the soil when dry and when wet. Soils that are plastic and sticky when wet are difficult to excavate, grade, or compact and are difficult to place as a uniformly thick cover over a layer of refuse.

The soil material used as the final cover for a trench landfill should be suitable for plants. It should not have excess sodium or salts and should not be too acid. The surface layer generally has the best workability, the highest content of organic matter, and the best potential for plants. Material from the surface layer should be stockpiled for use as the final cover.

In an *area sanitary landfill*, solid waste is placed in successive layers on the surface of the soil. The waste is spread, compacted, and covered daily with a thin layer of soil from a source away from the site. A final cover of soil material at least 2 feet thick is placed over the completed landfill. The ratings in the table are based on the soil properties that affect trafficability and the risk of pollution. These properties include flooding, permeability, a water table, ponding, slope, and depth to bedrock or a cemented pan.

Flooding is a serious problem because it can result in pollution in areas downstream from the landfill. If permeability is too rapid or if fractured bedrock, a fractured cemented pan, or the water table is close to the surface, the leachate can contaminate the water supply. Slope is a consideration because of the extra grading required to maintain roads in the steeper areas of the landfill. Also, leachate may flow along the

surface of the soils in the steeper areas and cause difficult seepage problems.

*Daily cover for landfill* is the soil material that is used to cover compacted solid waste in an area sanitary landfill. The soil material is obtained offsite, transported to the landfill, and spread over the waste. The ratings in the table also apply to the final cover for a landfill. They are based on the soil properties that affect workability, the ease of digging, and the ease of moving and spreading the material over the refuse daily during wet and dry periods. These properties include soil texture, a water table, ponding, rock fragments, slope, depth to bedrock or a cemented pan, reaction, and content of salts, sodium, or lime.

Loamy or silty soils that are free of large stones and excess gravel are the best cover for a landfill. Clayey soils may be sticky and difficult to spread; sandy soils are subject to wind erosion.

Slope affects the ease of excavation and of moving the cover material. Also, it can influence runoff, erosion, and reclamation of the borrow area.

After soil material has been removed, the soil material remaining in the borrow area must be thick enough over bedrock, a cemented pan, or the water table to permit revegetation. The soil material used as the final cover for a landfill should be suitable for plants. It should not have excess sodium, salts, or lime and should not be too acid.

## Construction Materials and Excavating

The soils of the survey area are rated in table 14 as a source of roadfill, sand, gravel, or topsoil. Normal compaction, minor processing, and other standard construction practices are assumed. The soils are also rated according to limitations that affect their suitability for shallow excavations. The ratings in the table are both verbal and numerical.

For sand and gravel, the soils are rated as a *probable*, *possible*, or *improbable* source. A rating of *probable* indicates that the source material is likely to be in or below the soil. A rating of *possible* indicates that the source material may be in or below the soil and that further investigation is warranted. A rating of *improbable* indicates that the source material is unlikely to be in or below the soil. The numerical ratings in these columns indicate the degree of probability. A numerical rating of 1.00 indicates that the soil is an improbable source. A numerical rating of less than 1.00 indicates the degree to which the soil is a possible or probable source of sand or gravel.

Other rating class terms used in this table indicate the extent to which the soils are limited by soil features



that affect their use as a source for roadfill or topsoil or their suitability for shallow excavations. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Slightly limited* indicates that the soil has features that are favorable for the specified use. The limitations are minor and can be easily overcome. Good performance and low maintenance can be expected. *Moderately limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Limited* indicates that the soil has one or more features that are significant limitations for the specified use. The limitations can be overcome, but overcoming them generally requires special design, soil reclamation, or installation procedures that may result in additional expense. Fair performance and moderate or high maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings for roadfill, topsoil, and shallow excavations indicate the severity of individual limitations. The numerical ratings are shown as decimal fractions ranging from 0.00 to 1.00. Limitation classes are assigned as follows:

Not limited .....	0.00
Slightly limited .....	0.01 to 0.30
Moderately limited .....	0.31 to 0.60
Limited .....	0.61 to 0.99
Very limited .....	1.00

The numerical ratings used to express the severity of individual limitations indicate gradations between the point at which a soil feature has the greatest negative impact on the use and the point at which the soil feature is not a limitation.

Limitation class terms and numerical ratings are shown for each limiting soil feature listed. As many as three soil features may be listed for each component. The overall limitation rating for the component is based on the most severe limitation.

*Roadfill* is soil material that is excavated in one place and used in road embankments in another place. In this table, the soils are rated as a source of roadfill for low embankments, generally less than 6 feet high and less exacting in design than higher embankments.

The ratings are for the whole soil, from the surface to a depth of about 5 feet. It is assumed that soil layers will be mixed when the soil material is excavated and spread.

The ratings are based on the amount of suitable material and on soil properties that affect the ease of excavation and the performance of the material after it is in place. The thickness of the suitable material is a major consideration. The ease of excavation is affected by large stones, a water table, and slope. How well the soil performs in place after it has been compacted and drained is determined by its strength (as inferred from the AASHTO classification of the soil) and linear extensibility (shrink-swell potential).

*Sand* and *gravel* are natural aggregates suitable for commercial use with a minimum of processing. They are used in many kinds of construction. Specifications for each use vary widely. In the table, only the likelihood of finding material in suitable quantity is evaluated. The suitability of the material for specific purposes is not evaluated, nor are factors that affect excavation of the material. The properties used to evaluate the soil as a source of sand or gravel are gradation of grain sizes (as indicated by the Unified classification of the soil), the thickness of suitable material, and the content of rock fragments. If the lowest layer of the soil contains sand or gravel, the soil is rated as a probable source regardless of the thickness. The assumption is that the sand or gravel layer below the depth of observation exceeds the minimum thickness.

*Topsoil* is used to cover an area so that vegetation can be established and maintained. The upper 40 inches of a soil is evaluated for use as topsoil. Also evaluated is the reclamation potential of the borrow area. The ratings are based on the soil properties that affect plant growth; the ease of excavating, loading, and spreading the material; and reclamation of the borrow area. Toxic substances, soil reaction, and the properties that are inferred from soil texture, such as available water capacity and fertility, affect plant growth. The ease of excavating, loading, and spreading is affected by rock fragments, slope, a water table, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by slope, a water table, rock fragments, depth to bedrock or a cemented pan, and toxic material.

The surface layer of most soils is generally preferred for topsoil because of its organic matter content. Organic matter greatly increases the absorption and retention of moisture and nutrients for plant growth.

*Shallow excavations* are trenches or holes dug to a



maximum depth of 5 or 6 feet for basements, graves, utility lines, open ditches, or other purposes. The ratings are based on the soil properties that influence the ease of digging and the resistance to sloughing. Depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, the amount of large stones, and dense layers influence the ease of digging, filling, and compacting. Depth to the seasonal high water table, flooding, and ponding may restrict the period when excavations can be made. Slope influences the ease of using machinery. Soil texture, depth to the water table, and linear extensibility (shrink-swell potential) influence the resistance to sloughing.

## Water Management

Table 15 gives information on the soil properties and site features that affect water management. The degree and kind of soil limitations are given for pond reservoir areas, drainage, irrigation, terraces and diversions, and grassed waterways.

The ratings in the table are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the specified use. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Slightly limited* indicates that the soil has features that are favorable for the specified use. The limitations are minor and can be easily overcome. Good performance and low maintenance can be expected. *Moderately limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Limited* indicates that the soil has one or more features that are significant limitations for the specified use. The limitations can be overcome, but overcoming them generally requires special design, soil reclamation, or installation procedures that may result in additional expense. Fair performance and moderate or high maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the table indicate the severity of individual limitations. The numerical ratings are

shown as decimal fractions ranging from 0.00 to 1.00. Limitation classes are assigned as follows:

Not limited .....	0.00
Slightly limited .....	0.01 to 0.30
Moderately limited .....	0.31 to 0.60
Limited .....	0.61 to 0.99
Very limited .....	1.00

The numerical ratings used to express the severity of individual limitations indicate gradations between the point at which a soil feature has the greatest negative impact on the use and the point at which the soil feature is not a limitation.

Limitation class terms and numerical ratings are shown for each limiting soil feature listed. As many as three soil features may be listed for each component. The overall limitation rating for the component is based on the most severe limitation.

*Pond reservoir areas* hold water behind a dam or embankment. Soils best suited to this use have low seepage potential in the upper 60 inches. The seepage potential is determined by the permeability of the soil and the depth to fractured bedrock or other permeable material. Slope can affect the storage capacity of the reservoir area.

*Drainage* is the removal of excess surface and subsurface water from the soil. How easily and effectively the soil is drained depends on the depth to bedrock, permeability, depth to a water table, ponding, slope, and flooding. Excavating and grading and the stability of ditchbanks are affected by depth to bedrock or a cemented pan, large stones, slope, and the likelihood that cutbanks will cave. The productivity of the soil after drainage is adversely affected by extreme acidity or by toxic substances in the root zone, such as salts, sodium, and sulfur. The availability of drainage outlets is not considered in the ratings.

*Irrigation* is the controlled application of water to supplement rainfall and support plant growth. The design and management of an irrigation system are affected by depth to a water table, ponding, flooding, available water capacity, intake rate, permeability, erodibility, and slope. The construction of a system is affected by large stones and depth to bedrock. The performance of a system is affected by the depth of the root zone, reaction, and the amount of salts, sodium, sulfur, lime, or gypsum.

*Terraces and diversions* are embankments or a combination of channels and ridges constructed across a slope to control erosion and conserve moisture by intercepting runoff. Slope, a water table, ponding, large stones, and depth to bedrock affect the

construction of terraces and diversions. A restricted rooting depth, erodibility, an excessively coarse texture, and restricted permeability adversely affect maintenance.

*Grassed waterways* are natural or constructed channels, generally broad and shallow, that conduct surface water to outlets at a nonerosive velocity. Large stones, a water table, slope, and depth to bedrock affect the construction of grassed waterways. Erodibility, soil moisture regime, available water capacity, restricted rooting depth, restricted permeability, and toxic substances, such as salts and sodium, affect the growth and maintenance of the grass after construction.

Waste Management

Soil properties are important considerations in areas where soils are used as sites for the treatment and disposal of organic waste and wastewater. Selection of soils with properties that favor waste management can help to prevent environmental damage.

Table 16 shows the degree and kind of soil limitations affecting the treatment of agricultural waste, including municipal and food-processing wastewater and effluent from lagoons or storage ponds. Municipal wastewater is the waste stream from a municipality. It contains domestic waste and may contain industrial waste. It may have received primary or secondary treatment. It is rarely untreated sewage. Food-processing wastewater results from the preparation of fruits, vegetables, milk, cheese, and meats for public consumption. In places it is high in content of sodium and chloride. In the context of this table, the effluent in lagoons and storage ponds is from facilities used to treat or store food-processing wastewater or domestic or animal waste. Domestic and food-processing wastewater is very dilute, and the effluent from the facilities that treat or store it commonly is very low in content of carbonaceous and nitrogenous material; the content of nitrogen commonly ranges from 10 to 30 mg/l. The wastewater from animal waste treatment lagoons or storage ponds, however, has much higher concentrations of these materials, mainly because the manure has not been diluted as much as the domestic waste. The content of nitrogen in this wastewater generally ranges from 50 to 2,000 mg/l. When wastewater is applied, checks should be made to ensure that nitrogen, heavy metals, and salts are not added in excessive amounts.

The ratings in the table are for waste management systems that not only dispose of and treat organic

waste or wastewater but also are beneficial to crops (application of manure and food-processing waste, application of sewage sludge, and disposal of wastewater through irrigation) and for waste management systems that are designed only for the purpose of wastewater disposal and treatment (slow rate treatment of wastewater and rapid infiltration of wastewater).

The ratings in the table are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the specified use. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Slightly limited* indicates that the soil has features that are favorable for the specified use. The limitations are minor and can be easily overcome. Good performance and low maintenance can be expected. *Moderately limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Limited* indicates that the soil has one or more features that are significant limitations for the specified use. The limitations can be overcome, but overcoming them generally requires special design, soil reclamation, or installation procedures that may result in additional expense. Fair performance and moderate or high maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the table indicate the severity of individual limitations. The numerical ratings are shown as decimal fractions ranging from 0.00 to 1.00. Limitation classes are assigned as follows:

Not limited .....	0.00
Slightly limited .....	0.01 to 0.30
Moderately limited .....	0.31 to 0.60
Limited .....	0.61 to 0.99
Very limited .....	1.00

The numerical ratings used to express the severity of individual limitations indicate gradations between the point at which a soil feature has the greatest negative impact on the use and the point at which the soil feature is not a limitation.

Limitation class terms and numerical ratings are shown for each limiting soil feature listed. As many as

three soil features may be listed for each component. The overall limitation rating for the component is based on the most severe limitation.

*Land application of manure and food-processing waste* not only disposes of waste material but also improves crop production by increasing the supply of nutrients in the soils where the material is applied. Manure is the excrement of livestock and poultry, and food-processing waste is damaged fruit and vegetables and the peelings, stems, leaves, pits, and soil particles removed in food preparation. The manure and food-processing waste are either solid, slurry, or liquid. Their nitrogen content varies. A high content of nitrogen limits the application rate. Toxic or otherwise dangerous wastes, such as those mixed with the lye used in food processing, are not considered in the ratings.

The ratings are based on the soil properties that affect absorption, plant growth, microbial activity, erodibility, the rate at which the waste is applied, and the method by which the waste is applied. The properties that affect absorption include permeability, a water table, ponding, the sodium adsorption ratio, depth to bedrock or a cemented pan, and available water capacity. The properties that affect plant growth and microbial activity include reaction, the sodium adsorption ratio, salinity, and bulk density. The wind erodibility group, the soil erodibility factor K, and slope are considered in estimating the likelihood of wind erosion or water erosion. Stones, cobbles, a water table, ponding, and flooding can hinder the application of waste.

*Land application of municipal sewage sludge* not only disposes of waste material but also improves crop production by increasing the supply of nutrients in the soils where the material is applied. In the context of this table, sewage sludge is the residual product of the treatment of municipal sewage. The solid component consists mainly of cell mass, primarily bacteria cells that developed during secondary treatment and have incorporated soluble organics into their own bodies. The sludge has small amounts of sand, silt, and other solid debris. The content of nitrogen varies. Some sludge has constituents that are toxic to plants or hazardous to the food chain, such as heavy metals and exotic organic compounds, and should be analyzed chemically prior to use.

The content of water in the sludge ranges from about 98 percent to less than 40 percent. The sludge is considered liquid if it is more than about 90 percent water, slurry if it is about 50 to 90 percent water, and solid if it is less than about 50 percent water.

The ratings in the table are based on the soil properties that affect absorption, plant growth,

microbial activity, erodibility, the rate at which the sludge is applied, and the method by which the sludge is applied. The properties that affect absorption, plant growth, and microbial activity include permeability, a water table, ponding, the sodium adsorption ratio, depth to bedrock or a cemented pan, available water capacity, reaction, salinity, and bulk density. The wind erodibility group, the soil erodibility factor K, and slope are considered in estimating the likelihood of wind erosion or water erosion. Stones, cobbles, a water table, ponding, and flooding can hinder the application of sludge.

*Disposal of wastewater by irrigation* not only disposes of municipal wastewater and wastewater from food-processing plants, lagoons, and storage ponds but also improves crop production by increasing the amount of water available to crops. The ratings in the table are based on the soil properties that affect the design, construction, management, and performance of the irrigation system. The properties that affect design and management include the sodium adsorption ratio, a water table, ponding, available water capacity, permeability, slope, and flooding. The properties that affect construction include stones, cobbles, depth to bedrock or a cemented pan, a water table, and ponding. The properties that affect performance include depth to bedrock or a cemented pan, bulk density, the sodium adsorption ratio, salinity, reaction, and the cation-exchange capacity, which is used to estimate the capacity of a soil to adsorb heavy metals.

*Treatment of wastewater by slow rate process* is a process in which wastewater is applied to land at a rate normally between 0.5 inch and 4.0 inches per week. The application rate commonly exceeds the rate needed for irrigation of cropland. The applied wastewater is treated as it moves through the soil. Much of the treated water percolates to the ground water, and some enters the atmosphere through evapotranspiration. The applied water generally is not allowed to run off the surface. Waterlogging is prevented either through control of the application rate or through the use of tile drains, or both.

The ratings in the table are based on the soil properties that affect absorption, plant growth, microbial activity, erodibility, and the application of waste. The properties that affect absorption include the sodium adsorption ratio, a water table, ponding, available water capacity, permeability, depth to bedrock or a cemented pan, reaction, the cation-exchange capacity, and slope. Reaction, the sodium adsorption ratio, salinity, and bulk density affect plant growth and microbial activity. The wind erodibility group, the soil erodibility factor K, and slope are

considered in estimating the likelihood of wind erosion or water erosion. Stones, cobbles, a water table, ponding, and flooding can hinder the application of waste.

*Treatment of wastewater by rapid infiltration process* is a process in which wastewater applied in a level basin at a rate of 4 to 120 inches per week percolates through the soil, eventually reaching the ground water. The application rate commonly exceeds the rate needed for irrigation of cropland. Vegetation is not a necessary part of the treatment; hence, the basins may or may not be vegetated. The thickness of the soil material needed for proper treatment of the

wastewater is more than 72 inches. As a result, geologic and hydrologic investigation is needed to ensure proper design and performance and to determine the risk of ground-water pollution.

The ratings in the table are based on the soil properties that affect the risk of pollution and the design, construction, and performance of the system. A water table, ponding, flooding, and depth to bedrock or a cemented pan affect the risk of pollution and the design and construction of the system. Slope, stones, and cobbles also affect design and construction. Permeability and reaction affect performance.

# Soil Properties

Data relating to soil properties are collected during the course of the soil survey.

Soil properties are ascertained by field examination of the soils and by laboratory index testing of some benchmark soils. Established standard procedures are followed. During the survey, many shallow borings are made and examined to identify and classify the soils and to delineate them on the soil maps. Samples are taken from some typical profiles and tested in the laboratory to determine particle-size distribution, plasticity, and compaction characteristics.

Estimates of soil properties are based on field examinations, on laboratory tests of samples from the survey area, and on laboratory tests of samples of similar soils in nearby areas. Tests verify field observations, verify properties that cannot be estimated accurately by field observation, and help to characterize key soils.

The estimates of soil properties shown in the tables include the range of grain-size distribution and Atterberg limits, the engineering classification, and the physical and chemical properties of the major layers of each soil. Pertinent soil and water features also are given.

## Engineering Index Properties

Table 17 gives estimates of the engineering classification and of the range of index properties for the major layers of each soil in the survey area. Most soils have layers of contrasting properties within the upper 5 or 6 feet.

*Depth* to the upper and lower boundaries of each layer is indicated. The range in depth and information on other properties of each layer are given for each soil series under the heading "Soil Series and Their Morphology."

*Texture* is given in abbreviations of the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter (fig. 13). "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is as much as

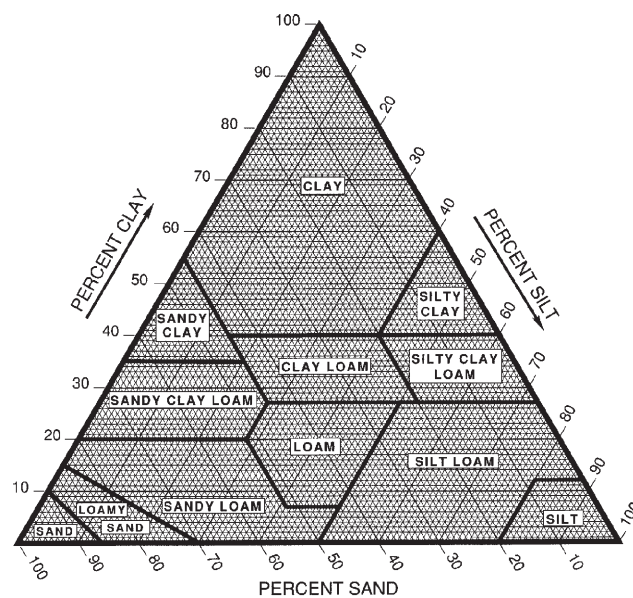


Figure 13.—Percentages of clay, silt, and sand in the basic USDA soil textural classes.

about 15 percent, an appropriate modifier is added, for example, "gravelly." Textural terms are defined in the Glossary.

*Classification* of the soils is determined according to the Unified soil classification system (ASTM, 2001) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2000).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to grain-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and



maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of grain-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest.

*Rock fragments* larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage.

*Percentage (of soil particles) passing designated sieves* is the percentage of the soil fraction less than 3 inches in diameter based on an oven-dry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

*Liquid limit and plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination.

The estimates of grain-size distribution, liquid limit, and plasticity index are generally rounded to the nearest 5 percent. Thus, if the ranges of gradation and Atterberg limits extend a marginal amount (1 or 2 percentage points) across classification boundaries, the classification in the marginal zone is omitted in the table.

## Physical Properties

Table 18 shows estimates of some characteristics and features that affect soil behavior. These estimates are given for the major layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

*Depth* to the upper and lower boundaries of each layer is indicated.

Particle size is the effective diameter of a soil particle as measured by sedimentation, sieving, or

micrometric methods. Particle sizes are expressed as classes with specific effective diameter class limits. The broad classes are sand, silt, and clay, ranging from the larger to the smaller.

*Sand* as a soil separate consists of mineral soil particles that are 0.05 millimeter to 2 millimeters in diameter. In the table, the estimated sand content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

*Silt* as a soil separate consists of mineral soil particles that are 0.002 to 0.05 millimeter in diameter. In the table, the estimated silt content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

*Clay* as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In the table, the estimated clay content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of sand, silt, and clay affects the physical behavior of a soil. Particle size is important for engineering and agronomic interpretations, for determination of soil hydrologic qualities, and for soil classification.

The amount and kind of clay affect the fertility and physical condition of the soil and the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, permeability, plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

*Moist bulk density* is the weight of soil (oven-dry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at  $1/3$ - or  $1/10$ -bar (33kPa or 10kPa) moisture tension. Weight is determined after the soil is dried at 105 degrees C. In the table, the estimated moist bulk density of each soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. Depending on soil texture, a bulk density of more than 1.4 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

*Saturated hydraulic conductivity* refers to the ability of a soil to transmit water or air. The term "permeability," as used in soil surveys, indicates saturated hydraulic conductivity ( $K_{sat}$ ). The estimates

in the table indicate the rate of water movement, in micrometers per second (um/sec), when the soil is saturated. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Permeability is considered in the design of soil drainage systems and septic tank absorption fields.

*Available water capacity* refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each soil layer. The capacity varies, depending on soil properties that affect retention of water. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

*Linear extensibility* refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at  $1/3$ - or  $1/10$ -bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported in the table as percent change for the whole soil. Volume change is influenced by the amount and type of clay minerals in the soil.

Linear extensibility is used to determine the shrink-swell potential of soils. The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

*Organic matter* is the plant and animal residue in the soil at various stages of decomposition. In the table, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of organic matter in a soil can be maintained by returning crop residue to the soil. Organic matter has a positive effect on available water capacity, water infiltration, soil organism activity, and tilth. It is a source of nitrogen and other nutrients for crops and soil organisms.

*Erosion factors* are shown in the table as the K factor ( $K_w$  and  $K_f$ ) and the T factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the

Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and permeability. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

*Erosion factor  $K_w$*  indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

*Erosion factor  $K_f$*  indicates the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size.

*Erosion factor T* is an estimate of the maximum average annual rate of soil erosion by wind or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

*Wind erodibility groups* are made up of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. The groups are as follows:

1. Coarse sands, sands, fine sands, and very fine sands.
2. Loamy coarse sands, loamy sands, loamy fine sands, loamy very fine sands, ash material, and sapric soil material.
3. Coarse sandy loams, sandy loams, fine sandy loams, and very fine sandy loams.
- 4L. Calcareous loams, silt loams, clay loams, and silty clay loams.
4. Clays, silty clays, noncalcareous clay loams, and silty clay loams that are more than 35 percent clay.
5. Noncalcareous loams and silt loams that are less than 20 percent clay and sandy clay loams, sandy clays, and hemic soil material.
6. Noncalcareous loams and silt loams that are more than 20 percent clay and noncalcareous clay loams that are less than 35 percent clay.
7. Silts, noncalcareous silty clay loams that are less than 35 percent clay, and fibric soil material.
8. Soils that are not subject to wind erosion because of coarse fragments on the surface or because of surface wetness.

*Wind erodibility index* is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the

size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

## Chemical Properties

Table 19 shows estimates of some chemical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

*Depth* to the upper and lower boundaries of each layer is indicated.

*Cation-exchange capacity* is the total amount of extractable bases that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. Soils having a low cation-exchange capacity hold fewer cations and may require more frequent applications of fertilizer than soils having a high cation-exchange capacity. The ability to retain cations reduces the hazard of ground-water pollution.

*Effective cation-exchange capacity* refers to the sum of extractable bases plus aluminum expressed in terms of milliequivalents per 100 grams of soil. It is determined for soils that have pH of less than 5.5.

*Soil reaction* is a measure of acidity or alkalinity. The pH of each soil horizon is based on many field tests. For many soils, values have been verified by laboratory analyses. Soil reaction is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

## Water Features

Table 20 gives estimates of various water features. The estimates are used in land use planning that involves engineering considerations.

*Hydrologic soil groups* are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

*Surface runoff* refers to the loss of water from an area by flow over the land surface. Surface runoff classes are based on slope, climate, and vegetative cover. It is assumed that the surface of the soil is bare and that the retention of surface water resulting from irregularities in the ground surface is minimal. The classes are *negligible*, *very low*, *low*, *medium*, *high*, and *very high*.

The *months* in the table indicate the portion of the year in which the feature is most likely to be a concern.

*Water table* refers to a saturated zone in the soil. Table 20 indicates, by month, depth to the top (*upper limit*) and base (*lower limit*) of the saturated zone in most years. Estimates of the upper and lower limits are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors or mottles (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

*Ponding* is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation. Table 20 indicates *surface water depth* and the *duration* and *frequency* of ponding. Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, rare, occasional, and frequent. *None* means that ponding is not probable; *rare* that it is unlikely but possible under unusual weather conditions (the chance of ponding is nearly 0 percent to 5 percent in any year); *occasional* that it occurs, on the average, once or less in 2 years (the chance of ponding is 5 to 50 percent in any year);

and *frequent* that it occurs, on the average, more than once in 2 years (the chance of ponding is more than 50 percent in any year).

*Flooding* is the temporary inundation of an area caused by overflowing streams, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall or snowmelt is not considered flooding, and water standing in swamps and marshes is considered ponding rather than flooding.

*Duration and frequency* are estimated. Duration is expressed as *extremely brief* if 0.1 hour to 4 hours, *very brief* if 4 hours to 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, very rare, rare, occasional, frequent, and very frequent. *None* means that flooding is not probable; *very rare* that it is very unlikely but possible under extremely unusual weather conditions (the chance of flooding is less than 1 percent in any year); *rare* that it is unlikely but possible under unusual weather conditions (the chance of flooding is 1 to 5 percent in any year); *occasional* that it occurs infrequently under normal weather conditions (the chance of flooding is 5 to 50 percent in any year); *frequent* that it is likely to occur often under normal weather conditions (the chance of flooding is more than 50 percent in any year but is less than 50 percent in all months in any year); and *very frequent* that it is likely to occur very often under normal weather conditions (the chance of flooding is more than 50 percent in all months of any year). Probable dates are expressed in months. About two-thirds to three-fourths of all flooding occurs during the stated period.

The information is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and little or no horizon development.

Also considered are local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

## Soil Features

Table 21 gives estimates of various soil features. The estimates are used in land use planning that involves engineering considerations.

A *restrictive layer* is a nearly continuous layer that

has one or more physical, chemical, or thermal properties that significantly impede the movement of water and air through the soil or that restrict roots or otherwise provide an unfavorable root environment. Examples are bedrock, cemented layers, dense layers, and frozen layers. The table indicates the thickness and hardness of the restrictive layer, both of which significantly affect the ease of excavation. *Depth to top* is the vertical distance from the soil surface to the upper boundary of the restrictive layer.

*Potential for frost action* is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture, density, permeability, content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured, clayey soils that have a high water table in winter are the most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage mainly to pavements and other rigid structures.

*Risk of corrosion* pertains to potential soil-induced electrochemical or chemical action that dissolves or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than steel in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as *low*, *moderate*, or *high*, is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion is also expressed as *low*, *moderate*, or *high*. It is based on soil texture, acidity, and amount of sulfates in the saturation extract.





# Classification of the Soils

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The system of soil classification used by the National Cooperative Soil Survey has six categories (Soil Survey Staff, 1998 and 1999). Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. Classification is based on soil properties observed in the field or inferred from those observations or from laboratory measurements. Table 22 shows the classification of the soils in the survey area. The categories are defined in the following paragraphs.

**ORDER.** Twelve soil orders are recognized. The differences among orders reflect the dominant soil-forming processes and the degree of soil formation. Each order is identified by a word ending in *sol*. An example is Alfisol.

**SUBORDER.** Each order is divided into suborders primarily on the basis of properties that influence soil genesis and are important to plant growth or properties that reflect the most important variables within the orders. The last syllable in the name of a suborder indicates the order. An example is Udalf (*Ud*, meaning humid, plus *alf*, from Alfisol).

**GREAT GROUP.** Each suborder is divided into great groups on the basis of close similarities in kind, arrangement, and degree of development of pedogenic horizons; soil moisture and temperature regimes; type of saturation; and base status. Each great group is identified by the name of a suborder and by a prefix that indicates a property of the soil. An example is Hapludalfs (*Hapl*, meaning minimal horizonation, plus *udalf*, the suborder of the Alfisols that has a udic moisture regime).

**SUBGROUP.** Each great group has a typic subgroup. Other subgroups are intergrades or extragrades. The typic subgroup is the central concept of the great group; it is not necessarily the most extensive. Intergrades are transitions to other orders, suborders, or great groups. Extragrades have some properties that are not representative of the great group but do not indicate transitions to any other taxonomic class. Each subgroup is identified by one or more adjectives preceding the name of the great group. An example is Aquic Hapludalfs.

**FAMILY.** Families are established within a

subgroup on the basis of physical and chemical properties and other characteristics that affect management. Generally, the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle-size class, mineralogy class, cation-exchange activity class, soil temperature regime, soil depth, and reaction class. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is fine, mixed, active, mesic Aquic Hapludalfs.

**SERIES.** The series consists of soils within a family that have horizons similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile.

## Soil Series and Their Morphology

In this section, each soil series recognized in the survey area is described. Characteristics of the soil and the material in which it formed are identified for each series. A pedon, a small three-dimensional area of soil, that is typical of the series in the survey area is described. The detailed description of each soil horizon follows standards in the "Soil Survey Manual" (Soil Survey Division Staff, 1993). Many of the technical terms used in the descriptions are defined in "Soil Taxonomy" (Soil Survey Staff, 1999) and in "Keys to Soil Taxonomy" (Soil Survey Staff, 1998). Unless otherwise indicated, colors in the descriptions are for moist soil. Following the pedon description is the range of important characteristics of the soils in the series.

### Alred Series

The Alred series consists of very deep, well drained soils on upland summits, shoulders, and backslopes. These soils formed in cherty hillslope sediments and in the underlying clayey residuum derived from dolostone. Permeability is moderate in the upper part of the subsoil and slow in the lower part. Slopes range from 1 to 60 percent.

*Taxonomic classification:* Loamy-skeletal over clayey, siliceous, semiactive, mesic Typic Paleudalfs

### Typical Pedon

Alred very gravelly silt loam, in an area of Alred-Gatewood complex, 15 to 35 percent slopes, stony; about 2,600 feet west and 1,050 feet north of the southeast corner of sec. 5, T. 22 N., R. 14 W.; USGS Isabella topographic quadrangle; lat. 36 degrees 36 minutes 36 seconds N. and long. 92 degrees 31 minutes 27 seconds W.

A—0 to 6 inches; dark grayish brown (10YR 4/2) very gravelly silt loam, light gray (10YR 7/2) dry; moderate medium granular structure; friable; many fine and medium roots; 55 percent chert gravel; very strongly acid; clear smooth boundary.

E—6 to 10 inches; pale brown (10YR 6/3) very gravelly silt loam; weak fine subangular blocky structure; friable; many fine to coarse roots; 50 percent chert gravel; very strongly acid; clear smooth boundary.

Bt1—10 to 21 inches; strong brown (7.5YR 5/6) very gravelly silt loam; moderate fine subangular blocky structure; friable; common fine to coarse roots; few distinct clay films on faces of peds and pale brown (10YR 6/3) clay depletions; 45 percent chert gravel; strongly acid; clear wavy boundary.

Bt2—21 to 28 inches; strong brown (7.5YR 5/6) very gravelly clay loam; moderate fine subangular blocky structure; firm; few fine and medium roots; common distinct clay films on faces of peds and pale brown (10YR 6/3) clay depletions; 55 percent chert gravel; strongly acid; clear wavy boundary.

2Bt3—28 to 40 inches; 70 percent yellowish brown (10YR 5/6) and 30 percent red (2.5YR 4/6) gravelly clay; moderate fine subangular blocky structure; firm; few fine roots; many prominent clay films on faces of peds; 20 percent chert gravel; very strongly acid; clear smooth boundary.

2Bt4—40 to 51 inches; 60 percent strong brown (7.5YR 5/6), 30 percent red (2.5YR 4/6), and 10 percent light brownish gray (10YR 6/2) clay; moderate medium subangular blocky structure; very firm; few fine and medium roots; many prominent clay films on faces of peds; 10 percent chert gravel; very strongly acid; clear smooth boundary.

2Bt5—51 to 60 inches; 70 percent red (2.5YR 4/6) and 30 percent yellowish brown (10YR 5/6) clay; strong medium subangular blocky structure; very firm; few fine roots; many prominent clay films on faces of peds and common black stains; 5 percent chert gravel; slightly acid; clear smooth boundary.

2Bt6—60 to 80 inches; 80 percent red (2.5YR 4/8) and 20 percent yellow (10YR 7/6) clay; moderate

medium subangular blocky structure; firm; few fine roots; many prominent clay films on faces of peds and many black stains; 10 percent chert gravel; slightly alkaline.

### Range in Characteristics

*Depth to the 2Bt horizon:* 20 to 40 inches

*A horizon:*

Content of rock fragments—35 to 70 percent gravel and cobbles

*E horizon:*

Content of rock fragments—30 to 70 percent gravel and cobbles  
Texture—silt loam or loam

*Bt horizon:*

Content of rock fragments—35 to 75 percent gravel and cobbles  
Texture—silt loam, silty clay loam, loam, or clay loam

*2Bt horizon:*

Content of rock fragments—0 to 30 percent gravel and cobbles  
Texture—silty clay or clay

### Bendavis Series

The Bendavis series consists of moderately deep, moderately well drained, moderately permeable soils on upland backslopes. These soils formed in gravelly slope alluvium. Slopes range from 8 to 50 percent.

*Taxonomic classification:* Loamy-skeletal, siliceous, active, mesic Typic Hapludults

### Typical Pedon

Bendavis very gravelly silt loam, in an area of Bendavis-Poynor complex, 15 to 50 percent slopes, rocky, very stony; about 2,600 feet east and 850 feet south of the northwest corner of sec. 16, T. 24 N., R. 13 W.; USGS Rockbridge topographic quadrangle; lat. 36 degrees 45 minutes 51 seconds N. and long. 92 degrees 23 minutes 46 seconds W.

A—0 to 3 inches; very dark grayish brown (10YR 3/2) very gravelly silt loam, grayish brown (10YR 5/2) dry; weak fine granular structure; friable; many fine to coarse roots; many very fine and fine interstitial and tubular pores; 55 percent chert gravel; strongly acid; clear smooth boundary.

E—3 to 10 inches; brown (10YR 5/3) very gravelly silt loam; weak fine subangular blocky structure; friable; many fine to coarse roots; many very fine and fine interstitial and tubular pores; few distinct

dark grayish brown (10YR 4/2) organic coatings throughout; 50 percent chert gravel; very strongly acid; clear smooth boundary.

Bt1—10 to 14 inches; light yellowish brown (10YR 6/4) extremely gravelly silt loam; moderate fine subangular blocky structure; friable; many fine to coarse roots; many very fine and fine interstitial and tubular pores; few faint clay films on faces of peds; 65 percent chert gravel; very strongly acid; clear wavy boundary.

Bt2—14 to 26 inches; yellowish brown (10YR 5/4) extremely gravelly silt loam; moderate fine subangular blocky structure; friable; common fine and medium roots; many very fine and fine interstitial and tubular pores; few faint clay films on faces of peds and few distinct pale brown (10YR 6/3) clay depletions throughout; 45 percent chert gravel and 20 percent chert cobbles; very strongly acid; clear wavy boundary.

Bt3—26 to 34 inches; strong brown (7.5YR 5/6) extremely cobbly loam; moderate fine subangular blocky structure; friable; common fine and medium roots; common very fine and fine interstitial and tubular pores; common distinct clay films on faces of peds and common yellowish red (5YR 4/6) masses of iron accumulation and few distinct light brownish gray (10YR 6/2) clay depletions throughout; 40 percent chert gravel and 30 percent chert cobbles; very strongly acid; abrupt smooth boundary.

R—34 inches; fractured chert bedrock.

#### **Range in Characteristics**

*Depth to bedrock:* 20 to 40 inches

##### *A horizon:*

Content of rock fragments—30 to 65 percent gravel and cobbles

##### *E horizon:*

Content of rock fragments—15 to 50 percent gravel and cobbles  
Texture—silt loam or loam

##### *Bt horizon:*

Content of rock fragments—30 to 75 percent gravel and cobbles  
Texture—silt loam, silty clay loam, or loam

### **Bender Series**

The Bender series consists of moderately deep, somewhat excessively drained soils on uplands. These soils formed in residuum derived from sandstone.

Permeability is moderately rapid. Slopes range from 15 to 60 percent.

*Taxonomic classification:* Loamy-skeletal, siliceous, active, mesic Typic Hapludults

#### **Typical Pedon**

Bender extremely cobbly sandy loam, in an area of Coulstone-Bender complex, 15 to 50 percent slopes, very stony; 300 feet south and 350 feet west of the northeast corner of sec. 16, T. 27 N., R. 11 W.; USGS Cabool Southwest topographic quadrangle; UTM Zone 15, 576,070 meters Easting and 4,098,020 meters Northing:

Oi—0 to 1 inch; partially decomposed oak leaf litter.

A—1 to 4 inches; dark grayish brown (10YR 4/2) extremely cobbly sandy loam, light gray (10YR 7/2) dry; weak very fine subangular blocky structure parting to moderate fine granular; friable; common fine and medium roots; many fine irregular pores; 30 percent chert cobbles and 45 percent chert gravel; very strongly acid (pH 5.0); abrupt smooth boundary.

BA—4 to 10 inches; 60 percent yellowish brown (10YR 5/6) and 40 percent dark grayish brown (10YR 5/2) very gravelly loam; moderate very fine and fine subangular blocky structure; friable; common fine and medium roots; common fine tubular pores; 40 percent chert gravel; strongly acid (pH 5.1); clear smooth boundary.

Bt1—10 to 16 inches; mixed, yellowish brown (10YR 5/6) very gravelly loam; moderate fine and medium subangular blocky structure; friable; few fine and medium roots; common fine tubular pores; few distinct yellowish brown (10YR 5/4) clay films on faces of peds; 40 percent chert gravel; strongly acid (pH 5.1); abrupt smooth boundary.

Bt2—16 to 24 inches; yellowish brown (10YR 5/6) extremely channery loam; weak fine subangular blocky structure; friable; few fine and medium roots; common fine tubular pores; many prominent red (2.5YR 4/8) clay films on faces of peds; common distinct pale brown (10YR 6/3) skeletalans on faces of peds; 30 percent chert gravel and 50 percent sandstone channers; strongly acid (pH 5.1); abrupt smooth boundary.

2R—24 inches; sandstone bedrock.

#### **Range in Characteristics**

*Depth to bedrock:* 20 to 40 inches

##### *A horizon:*

Content of rock fragments—0 to 60 percent gravel and 0 to 35 percent cobbles



*BA horizon:*

Content of rock fragments—0 to 60 percent gravel and 0 to 35 percent cobbles

Texture—sandy loam, fine sandy loam, or loam

*Bt horizon:*

Content of rock fragments—0 to 80 percent gravel and 0 to 50 percent cobbles

Texture—sandy loam, loam, sandy clay loam, or clay loam

**Cedargap Series**

The Cedargap series consists of very deep, well drained, moderately permeable soils on flood plains. These soils formed in gravelly stream alluvium. Slopes range from 0 to 3 percent.

*Taxonomic classification:* Loamy-skeletal, mixed, superactive, mesic Cumulic Hapludolls

**Typical Pedon**

Cedargap gravelly loam, 0 to 3 percent slopes, frequently flooded; about 400 feet east and 900 feet north of the southwest corner of sec. 2, T. 23 N., R. 13 W.; USGS Sycamore topographic quadrangle; lat. 36 degrees 41 minutes 45 seconds N. and long. 92 degrees 22 minutes 06 seconds W.

A1—0 to 8 inches; very dark grayish brown (10YR 3/2) gravelly loam, grayish brown (10YR 5/2) dry; moderate fine granular structure; friable; many fine roots; 30 percent chert gravel; moderately acid; clear wavy boundary.

A2—8 to 19 inches; 50 percent very dark grayish brown (10YR 3/2) and 50 percent dark brown (10YR 3/3) silt loam, brown (10YR 5/3) dry; moderate fine granular structure; friable; common fine roots; 10 percent chert gravel; slightly acid; clear wavy boundary.

Bw1—19 to 31 inches; very dark grayish brown (10YR 3/2) extremely gravelly sandy clay loam, grayish brown (10YR 5/2) dry; weak fine granular structure; friable; common fine roots; 65 percent chert gravel; slightly alkaline; gradual wavy boundary.

Bw2—31 to 39 inches; dark brown (10YR 3/3) extremely gravelly sandy clay loam; weak fine granular structure; very friable; few fine roots; 70 percent chert gravel; slightly alkaline; clear wavy boundary.

Ab—39 to 44 inches; black (10YR 2/1) gravelly clay loam; weak fine subangular blocky structure; friable; few fine roots; mixing of dark brown (10YR

3/3) material; 15 percent chert gravel; neutral; clear wavy boundary.

C—44 to 80 inches; brown (10YR 4/3) extremely gravelly sandy clay loam; massive; very friable; few fine roots; mixing of very dark grayish brown (10YR 3/2) material; 60 percent chert gravel and 20 percent chert cobbles; neutral.

**Range in Characteristics**

*Thickness of the mollic epipedon:* 22 to more than 60 inches

*A horizon:*

Content of rock fragments—15 to 60 percent gravel and cobbles

Texture—loam, silt loam, or sandy loam

*Bw and C horizons:*

Content of rock fragments—15 to 80 percent gravel and cobbles

Texture—sandy clay loam, clay loam, or loam

**Clarksville Series**

The Clarksville series consists of very deep, somewhat excessively drained, moderately rapidly permeable soils on upland summits and shoulders. These soils formed in gravelly slope alluvium and in the underlying gravelly residuum. Slopes range from 3 to 15 percent.

*Taxonomic classification:* Loamy-skeletal, siliceous, semiactive, mesic Typic Paleudults

**Typical Pedon**

Clarksville very gravelly silt loam, 3 to 15 percent slopes; about 2,125 feet west and 2,000 feet north of the southeast corner of sec. 7, T. 21 N., R. 13 W.; USGS Gainesville topographic quadrangle; lat. 36 degrees 37 minutes 06 seconds N. and long. 92 degrees 26 minutes 04 seconds W.

Oi—0 to 1 inch; partially decomposed forest litter from deciduous trees.

A—1 to 4 inches; dark brown (10YR 3/3) very gravelly silt loam, pale brown (10YR 6/3) dry; moderate fine granular structure; very friable; many very fine and fine roots; 45 percent chert gravel; strongly acid; clear smooth boundary.

E—4 to 7 inches; brown (10YR 4/3) very gravelly silt loam, very pale brown (10YR 7/3) dry; moderate fine granular structure; very friable; many fine roots and few medium and coarse roots; 35 percent chert gravel; strongly acid; clear smooth boundary.

- Bt1—7 to 11 inches; yellowish brown (10YR 5/4) very gravelly silt loam; moderate fine subangular blocky structure; friable; many roots; few faint clay films on faces of peds and common pale brown (10YR 6/3) clay depletions; 30 percent chert gravel and 5 percent chert cobbles; strongly acid; gradual smooth boundary.
- Bt2—11 to 22 inches; 70 percent yellowish brown (10YR 5/4) and 30 percent strong brown (7.5YR 5/6) very gravelly silt loam; moderate fine subangular blocky structure; friable; common fine and medium roots; few distinct clay films on faces of peds; 40 percent chert gravel and 10 percent chert cobbles; strongly acid; gradual smooth boundary.
- Bt3—22 to 34 inches; strong brown (7.5YR 5/6) extremely gravelly silt loam; moderate fine subangular blocky structure; friable; few fine roots; common distinct clay films on faces of peds and few light yellowish brown (10YR 6/4) clay depletions; 50 percent chert gravel and 20 percent chert cobbles; strongly acid; gradual smooth boundary.
- Bt4—34 to 46 inches; strong brown (7.5YR 5/6) extremely gravelly silt loam; moderate fine subangular blocky structure; friable; few fine roots; common distinct clay films on faces of peds and few pale brown (10YR 6/3) clay depletions; 50 percent chert gravel and 20 percent chert cobbles; very strongly acid; clear smooth boundary.
- 2Bt5—46 to 80 inches; red (2.5YR 4/8) extremely gravelly clay; moderate fine subangular blocky structure; firm; few fine roots; common distinct clay films on faces of peds; 65 percent chert gravel; very strongly acid.

#### Range in Characteristics

*Depth to the 2Bt horizon:* 40 or more inches

#### *A horizon:*

Content of rock fragments—35 to 60 percent gravel, cobbles, or stones

#### *E horizon:*

Content of rock fragments—30 to 75 percent gravel, cobbles, or stones

#### *Bt horizon:*

Content of rock fragments—40 to 75 percent gravel, cobbles, or stones  
Texture—silt loam or silty clay loam

#### *2Bt horizon:*

Content of rock fragments—15 to 65 percent gravel, cobbles, or stones  
Texture—silty clay or clay

### **Coulstone Series**

The Coulstone series consists of very deep, somewhat excessively drained soils in the uplands. Permeability is moderately rapid. These soils formed in colluvium and in residuum derived from acid sandstone. Slopes range from 15 to 60 percent.

*Taxonomic classification:* Loamy-skeletal, siliceous, semiactive, mesic Typic Paleudults

#### **Typical Pedon**

Coulstone very gravelly fine sandy loam, in an area of Coulstone-Bender complex, 15 to 50 percent slopes, very stony; 1,300 feet south and 2,500 feet east of the northwest corner of sec. 17, T. 25 N., R. 10 W.; USGS Siloam Springs topographic quadrangle; lat. 36 degrees 50 minutes 40 seconds N. and long. 92 degrees 04 minutes 11 seconds W.; in Howell County, Missouri:

Oe—0 to 1 inch; partially decomposed organic material.

A—1 to 4 inches; dark grayish brown (10YR 4/2) very gravelly fine sandy loam; weak very fine granular structure; very friable; many very fine and fine roots; many very fine irregular pores; 40 percent chert gravel; strongly acid (pH 5.3); clear wavy boundary.

AE—4 to 11 inches; brown (10YR 4/3) gravelly sandy loam; weak fine subangular blocky structure; friable; many fine to coarse roots; many fine irregular and tubular pores; 30 percent chert gravel; strongly acid (pH 5.4); gradual wavy boundary.

Bt1—11 to 20 inches; yellowish brown (10YR 5/4) very gravelly sandy loam; weak fine subangular blocky structure; friable; common fine and few medium roots; many fine irregular and tubular pores; common faint dark yellowish brown (10YR 4/4) clay films on faces of peds; 35 percent chert gravel; moderately acid (pH 5.7); clear wavy boundary.

Bt2—20 to 31 inches; yellowish brown (10YR 5/4) very gravelly sandy loam; weak fine subangular blocky structure; friable; common fine to coarse roots; many fine irregular and tubular pores; common distinct strong brown (7.5YR 5/6) clay films on rock fragments; 45 percent chert gravel; strongly acid (pH 5.5); clear wavy boundary.

2Bt3—31 to 39 inches; yellowish red (5YR 4/6) extremely gravelly loam; moderate fine subangular blocky structure; friable; common fine roots; many fine irregular and tubular pores; many distinct reddish brown (5YR 4/4) clay films throughout; 65

percent chert gravel; strongly acid (pH 5.4); gradual smooth boundary.

2Bt4—39 to 53 inches; red (2.5YR 4/6) very cobbly loam; moderate fine and medium subangular blocky structure; firm; common very fine and fine roots; many fine irregular and tubular pores; many distinct yellowish red (5YR 4/6) clay films throughout; 30 percent chert gravel and 20 percent chert cobbles; moderately acid (pH 5.6); abrupt wavy boundary.

2Bt5—53 to 80 inches; red (2.5YR 4/8) cobbly sandy clay loam; moderate fine and medium subangular blocky structure; firm; few fine to coarse roots; many fine irregular and tubular pores; many prominent red (2.5YR 4/6) clay films throughout; 10 percent chert gravel and 20 percent sandstone cobbles; strongly acid (pH 5.4).

### Range in Characteristics

#### *A horizon:*

Content of rock fragments—35 to 60 percent gravel, cobbles, or stones

#### *AE horizon:*

Content of rock fragments—25 to 65 percent gravel, cobbles, or stones

Texture—loam or sandy loam

#### *Bt and 2Bt horizons:*

Content of rock fragments—25 to 75 percent gravel, cobbles, or stones

Texture—clay loam, loam, sandy loam, or sandy clay loam

## Fanchon Series

The Fanchon series consists of very deep, well drained, moderately permeable soils on upland summits. These soils formed in silty colluvial sediments and in the underlying slope alluvium and residuum. Slopes range from 3 to 8 percent.

*Taxonomic classification:* Fine-loamy, siliceous, semiactive, mesic Typic Paleudults

### Typical Pedon

Fanchon gravelly silt loam, in an area of Fanchon-Tonti complex, 3 to 8 percent slopes; about 900 feet west and 1,400 feet south of the northeast corner of sec. 24, T. 24 N., R. 11 W.; USGS Pottersville topographic quadrangle; lat. 36 degrees 44 minutes 38 seconds N. and long. 92 degrees 07 minutes 03 seconds W.; in Howell County, Missouri:

A—0 to 4 inches; brown (10YR 4/3) gravelly silt loam, pale brown (10YR 6/3) dry; moderate fine granular structure; friable; many fine to coarse roots; many fine and medium interstitial and tubular pores; 15 percent chert gravel; strongly acid; clear smooth boundary.

BA—4 to 8 inches; 50 percent brown (10YR 4/3) and 50 percent yellowish brown (10YR 5/6) silt loam; weak fine subangular blocky structure; friable; many fine to coarse roots; many very fine and fine interstitial and tubular pores; 5 percent chert gravel; strongly acid; clear smooth boundary.

Bt1—8 to 15 inches; strong brown (7.5YR 5/6) silt loam; weak fine subangular blocky structure; friable; common fine and medium roots; common very fine and fine interstitial and tubular pores; few distinct clay films on faces of peds, few pale brown (10YR 6/3) clay depletions throughout, and few brown (10YR 4/3) organic coatings; 5 percent chert gravel; strongly acid; clear smooth boundary.

Bt2—15 to 24 inches; strong brown (7.5YR 5/6) gravelly silt loam; moderate fine and medium subangular blocky structure; firm; common fine and medium roots; common very fine and fine interstitial and tubular pores; common distinct clay films on faces of peds and few yellowish red (5YR 5/6) masses of iron accumulation and few light yellowish brown (10YR 6/4) clay depletions throughout; 30 percent chert gravel; strongly acid; clear smooth boundary.

2Bt3—24 to 34 inches; strong brown (7.5YR 5/6) gravelly silty clay loam; moderate medium subangular blocky structure; firm; common fine roots; common very fine and fine discontinuous tubular pores; common distinct reddish brown (2.5YR 4/4) clay films on faces of peds and common yellowish red (5YR 4/6) masses of iron accumulation and few light yellowish brown (10YR 6/4) clay depletions throughout; 30 percent chert gravel; strongly acid; gradual smooth boundary.

2Bt4—34 to 44 inches; strong brown (7.5YR 5/6) silty clay loam; moderate medium subangular blocky structure; firm; few fine roots; few very fine and fine discontinuous tubular pores; common distinct reddish brown (2.5YR 4/4) clay films on faces of peds and few pale brown (10YR 6/3) clay depletions throughout; 10 percent chert gravel; strongly acid; gradual smooth boundary.

3Bt5—44 to 59 inches; strong brown (7.5YR 5/6) gravelly silty clay; moderate medium subangular blocky structure; firm; few fine roots; few very fine and fine discontinuous tubular pores; common

distinct reddish brown (2.5YR 4/4) clay films on faces of peds and few pale brown (10YR 6/3) clay depletions throughout; 20 percent chert gravel; strongly acid; clear wavy boundary.

3Bt6—59 to 80 inches; 65 percent red (2.5YR 4/6), 30 percent brownish yellow (10YR 6/8), and 5 percent light brownish gray (2.5Y 6/2) gravelly clay; moderate medium subangular blocky structure; firm; few very fine and fine discontinuous tubular pores; common distinct reddish brown (2.5YR 4/4) clay films on faces of peds; 20 percent chert gravel; strongly acid.

#### **Range in Characteristics**

*Depth to the 2Bt horizon:* 20 to 40 inches

##### *A horizon:*

Content of rock fragments—0 to 25 percent gravel or cobbles

##### *BA horizon:*

Content of rock fragments—5 to 10 percent gravel or cobbles

Texture—silt loam or loam

##### *Bt horizon:*

Content of rock fragments—0 to 40 percent gravel or cobbles

Texture—silt loam or silty clay loam

##### *2Bt horizon:*

Content of rock fragments—5 to 50 percent gravel or cobbles

Texture—silty clay loam or silt loam

##### *3Bt horizon:*

Content of rock fragments—5 to 50 percent gravel or cobbles

Texture—silty clay or clay

### **Gatewood Series**

The Gatewood series consists of moderately deep, moderately well drained, slowly permeable soils on upland summits, shoulders, and backslopes. These soils formed in gravelly slope alluvium and in the underlying clayey residuum derived from dolostone. Slopes range from 3 to 60 percent.

*Taxonomic classification:* Very fine, mixed, active, mesic Oxyaquic Hapludalfs

#### **Typical Pedon**

Gatewood very gravelly loam, in an area of Gatewood-Moko complex, 3 to 15 percent slopes, very rocky, very flaggy; about 550 feet west and 1,500 feet south

of the northeast corner of sec. 3, T. 22 N., R. 14 W.; USGS Gainesville topographic quadrangle; lat. 36 degrees 36 minutes 59 seconds N. and long. 92 degrees 28 minutes 33 seconds W.

A—0 to 3 inches; very dark grayish brown (10YR 3/2) very gravelly loam; weak fine granular structure; very friable; many fine and medium roots; many very fine interstitial and tubular pores; 40 percent chert gravel and 10 percent chert cobbles; moderately acid; clear smooth boundary.

BA—3 to 8 inches; 70 percent dark yellowish brown (10YR 4/4) and 30 percent very dark grayish brown (10YR 3/2) very gravelly loam; weak fine subangular blocky structure; friable; many fine and medium roots; many very fine interstitial and tubular pores; 45 percent chert gravel and 5 percent chert cobbles; moderately acid; clear smooth boundary.

2Bt1—8 to 17 inches; 60 percent brown (7.5YR 4/4) and 40 percent strong brown (7.5YR 5/6) clay; strong fine subangular blocky structure; very firm; few fine to coarse roots; many very fine and fine discontinuous tubular pores; many prominent clay films on faces of peds and few yellowish red (5YR 4/6) masses of iron accumulation; 10 percent chert gravel; strongly acid; gradual wavy boundary.

2Bt2—17 to 24 inches; 50 percent yellowish brown (10YR 5/6), 30 percent dark yellowish brown (10YR 4/4), and 20 percent strong brown (7.5YR 4/6) clay; strong fine subangular blocky structure; very firm; few fine to coarse roots; many very fine and fine discontinuous tubular pores; many prominent clay films on faces of peds; 5 percent chert gravel; slightly acid; abrupt smooth boundary.

2R—24 inches; dolostone.

#### **Range in Characteristics**

*Depth to bedrock:* 20 to 40 inches

##### *A horizon:*

Content of rock fragments—5 to 70 percent gravel or cobbles

Texture—silt loam, loam, or sandy loam

##### *BA horizon:*

Content of rock fragments—5 to 70 percent gravel or cobbles

Texture—silt loam, loam, or sandy loam

##### *2Bt horizon:*

Content of rock fragments—0 to 25 percent gravel or flagstones

Texture—silty clay or clay



## Gressy Series

The Gressy series consists of very deep, well drained, moderately permeable soils on upland summits. These soils formed in silty sediments and in the underlying slope alluvium and residuum. Slopes range from 3 to 8 percent.

*Taxonomic classification:* Fine-loamy, siliceous, semiactive, mesic Typic Paleudalfs

### Typical Pedon

Gressy silt loam, in an area of Gressy-Viraton complex, 3 to 8 percent slopes; about 100 feet south and 1,950 feet west of the northeast corner of sec. 36, T. 22 N., R. 16 W.; USGS Theodosia topographic quadrangle; lat. 36 degrees 33 minutes 01 second N. and long. 92 degrees 40 minutes 06 seconds W.

Ap—0 to 9 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; moderate fine granular structure; friable; many very fine and fine roots; 5 percent chert gravel; strongly acid; abrupt smooth boundary.

Bt1—9 to 15 inches; yellowish brown (10YR 5/4) silt loam; weak fine subangular blocky structure; friable; common fine and medium roots; very few faint clay films on faces of peds and few brown (10YR 4/3) organic coatings in root channels and/or pores; 10 percent chert gravel; moderately acid; clear smooth boundary.

Bt2—15 to 21 inches; brown (7.5YR 4/4) silt loam; weak medium subangular blocky structure; friable; common fine roots; very few faint clay films on faces of peds; few fine iron-manganese concretions; 10 percent chert gravel; moderately acid; clear smooth boundary.

Bt3—21 to 31 inches; strong brown (7.5YR 5/6) gravelly silt loam; moderate medium subangular blocky structure; firm; few fine roots; common distinct clay films on faces of peds; few fine iron-manganese concretions; 25 percent chert gravel and 5 percent chert cobbles; moderately acid; clear wavy boundary.

2Bt4—31 to 40 inches; brown (7.5YR 4/4) extremely cobbly silty clay loam; moderate medium subangular blocky structure; firm; few fine roots; common distinct clay films on faces of peds and common red (2.5YR 4/6) masses of iron accumulation; 45 percent chert gravel and 25 percent chert cobbles; strongly acid; clear smooth boundary.

3Bt5—40 to 52 inches; dark red (2.5YR 3/6) gravelly clay; moderate fine subangular blocky structure; friable; common distinct clay films on faces of

peds and few light yellowish brown (10YR 6/4) clay depletions throughout; 25 percent sandstone gravel and 5 percent chert gravel; very strongly acid; gradual smooth boundary.

3Bt6—52 to 70 inches; 60 percent red (2.5YR 4/6), 30 percent strong brown (7.5YR 5/6), and 10 percent brownish yellow (10YR 6/6) gravelly clay; moderate medium subangular blocky structure; firm; 20 percent weathered sandstone gravel; many distinct clay films on faces of peds; few fine iron-manganese concretions; strongly acid; clear smooth boundary.

3Bt7—70 to 80 inches; 60 percent strong brown (7.5YR 5/6), 30 percent light red (2.5YR 6/6), and 10 percent yellowish red (5YR 4/6) gravelly silty clay; moderate medium subangular blocky structure; firm; 25 percent weathered mudstone gravel; many distinct red (2.5YR 4/6) clay films on faces of peds; 5 percent chert gravel; moderately acid.

### Range in Characteristics

#### A horizon:

Content of rock fragments—0 to 15 percent gravel

#### Bt horizon:

Content of rock fragments—0 to 30 percent gravel  
Texture—silt loam or silty clay loam

#### 2Bt horizon:

Content of rock fragments—0 to 70 percent gravel or cobbles  
Texture—silt loam, loam, silty clay loam, or clay loam

#### 3Bt horizon:

Content of rock fragments—0 to 30 percent gravel or cobbles  
Texture—silty clay or clay

## Jerktail Series

The Jerktail series consists of very deep, moderately well drained, slowly permeable soils on upland summits. These soils formed in silty slope alluvium and in the underlying clayey residuum derived from dolostone. Slopes range from 3 to 8 percent.

*Taxonomic classification:* Fine, mixed, active, mesic Aquic Hapludalfs

### Typical Pedon

Jerktail silt loam, 3 to 8 percent slopes; about 450 feet east and 675 feet south of the northwest corner of sec.

5, T. 24 N., R. 14 W.; USGS Wasola topographic quadrangle; lat. 36 degrees 48 minutes 01 second N. and long. 92 degrees 31 minutes 43 seconds W.

Ap—0 to 6 inches; grayish brown (10YR 5/2) silt loam, light gray (10YR 7/2) dry; moderate very fine granular structure; very friable; many fine and medium roots; many very fine interstitial and tubular pores; 10 percent subangular chert gravel; neutral; clear smooth boundary.

BE—6 to 13 inches; light yellowish brown (10YR 6/4) silt loam; weak fine subangular blocky structure; friable; many very fine to medium roots; many very fine interstitial and tubular pores; few grayish brown (10YR 5/2) organic coatings in root channels and/or pores; 10 percent subangular chert gravel; moderately acid; clear smooth boundary.

Bt1—13 to 19 inches; 50 percent light yellowish brown (10YR 6/4), 30 percent yellowish brown (10YR 5/6), and 20 percent strong brown (7.5YR 4/6) gravelly silty clay loam; common fine distinct light brownish gray (10YR 6/2) mottles; moderate fine and medium subangular blocky structure; firm; common very fine roots; common very fine tubular pores; common distinct clay films on faces of peds; 15 percent subangular chert gravel; strongly acid; clear smooth boundary.

Bt2—19 to 24 inches; 60 percent yellowish brown (10YR 5/6), 30 percent light yellowish brown (10YR 6/4), and 10 percent light brownish gray (10YR 6/2) gravelly silty clay loam; moderate fine and medium subangular blocky structure; firm; common very fine roots; common very fine tubular pores; common distinct clay films on faces of peds; few yellowish red (5YR 4/6) masses of iron accumulation; 15 percent subangular chert gravel; very strongly acid; clear smooth boundary.

2Bt3—24 to 31 inches; 50 percent gray (10YR 6/1) and 50 percent yellowish brown (10YR 5/6) clay; weak coarse prismatic structure parting to moderate fine subangular blocky; very firm; common fine roots; common very fine tubular pores; many prominent clay films on faces of peds; few yellowish red (5YR 4/6) masses of iron accumulation; very strongly acid; clear smooth boundary.

2Bt4—31 to 40 inches; 50 percent gray (10YR 6/1) and 50 percent yellowish brown (10YR 5/6) clay; weak coarse prismatic structure parting to moderate fine subangular blocky; very firm; few fine roots; common very fine tubular pores; many prominent clay films on faces of peds; extremely acid; clear wavy boundary.

3Bt5—40 to 55 inches; 65 percent gray (10YR 5/1)

and 35 percent yellowish brown (10YR 5/8) very cobbly clay; moderate fine and medium subangular blocky structure; very firm; few fine roots; many very fine tubular pores; many prominent clay films on faces of peds; few red (2.5YR 4/6) masses of iron accumulation; 25 percent angular chert gravel and 25 percent angular chert cobbles; extremely acid; clear wavy boundary.

3Bt6—55 to 66 inches; 45 percent yellowish brown (10YR 5/6), 45 percent brownish yellow (10YR 6/8), and 10 percent gray (2.5Y 6/1) cobbly clay; weak coarse prismatic structure parting to moderate fine angular blocky; very firm; many very fine tubular pores; many prominent clay films on faces of peds; common dark red (2.5YR 3/6) masses of iron accumulation; 30 percent angular chert cobbles; neutral; clear wavy boundary.

3Bt7—66 to 75 inches; 60 percent brownish yellow (10YR 6/8), 20 percent light brownish gray (10YR 6/2), and 20 percent light yellowish brown (10YR 6/4) cobbly clay; moderate fine angular blocky structure; firm; many very fine tubular pores; many distinct clay films on faces of peds and very few manganese or iron-manganese stains on rock fragments; common red (2.5YR 4/6) masses of iron accumulation; 20 percent angular chert cobbles; neutral; abrupt smooth boundary.

3R—75 inches; chert bedrock.

### Range in Characteristics

#### *A horizon:*

Content of rock fragments—0 to 10 percent gravel

#### *BE horizon:*

Content of rock fragments—0 to 10 percent gravel

#### *Bt horizon:*

Content of rock fragments—0 to 25 percent gravel

Texture—silt loam or silty clay loam

#### *2Bt horizon:*

Content of rock fragments—0 to 30 percent gravel

Texture—silty clay loam, silty clay, or clay

#### *3Bt horizon:*

Content of rock fragments—20 to 50 percent gravel and cobbles

Texture—silty clay or clay

### **Mano Series**

The Mano series consists of very deep, moderately well drained, slowly permeable soils on upland summits, shoulders, and backslopes. These soils formed in gravelly slope alluvium and in the underlying

clayey residuum derived from dolostone. Slopes range from 1 to 35 percent.

*Taxonomic classification:* Loamy-skeletal over clayey, mixed, semiactive, mesic Oxyaquic Hapludalfs

### Typical Pedon

Mano very gravelly silt loam, in an area of Mano-Ocie complex, 1 to 8 percent slopes; about 1,850 feet east and 400 feet south of the northwest corner of sec. 22, T. 23 N., R. 15 W.; USGS Willhoit topographic quadrangle; lat. 36 degrees 39 minutes 55 seconds N. and long. 92 degrees 35 minutes 56 seconds W.

Oi—0 to 1 inch; slightly decomposed leaf litter.

A—1 to 4 inches; brown (10YR 4/3) very gravelly silt loam, pale brown (10YR 6/3) dry; moderate fine granular structure; friable; many fine to coarse roots; many very fine and fine interstitial and tubular pores; 40 percent chert gravel; very strongly acid; clear smooth boundary.

BE—4 to 8 inches; 80 percent yellowish brown (10YR 5/4) and 20 percent brown (10YR 5/3) gravelly silt loam; weak fine subangular blocky structure; friable; many fine to coarse roots; many very fine and fine interstitial and tubular pores; 30 percent chert gravel; very strongly acid; clear smooth boundary.

Bt1—8 to 14 inches; yellowish brown (10YR 5/6) very gravelly silt loam; moderate fine subangular blocky structure; friable; many fine to coarse roots; many very fine and fine interstitial and tubular pores; few distinct clay films on faces of peds and few light yellowish brown (10YR 6/4) clay depletions; 40 percent chert gravel; very strongly acid; clear wavy boundary.

Bt2—14 to 23 inches; 70 percent strong brown (7.5YR 4/6) and 30 percent yellowish brown (10YR 5/6) extremely cobbly silt loam; moderate fine subangular blocky structure; friable; common fine and medium roots; many fine and medium interstitial and tubular pores; common distinct clay films on faces of peds and common light yellowish brown (10YR 6/4) clay depletions; 40 percent chert gravel, 25 percent chert cobbles, and 5 percent chert stones; very strongly acid; clear wavy boundary.

Bt3—23 to 31 inches; 80 percent strong brown (7.5YR 5/6) and 20 percent yellowish red (5YR 4/6) very gravelly silt loam; moderate fine subangular blocky structure; firm; few fine and medium roots; common very fine and fine interstitial and tubular pores; common distinct clay films on faces of peds

and common light brownish gray (10YR 6/2) clay depletions on rock fragments; 50 percent chert gravel; very strongly acid; clear wavy boundary.

2Bt4—31 to 38 inches; 40 percent red (2.5YR 4/6), 40 percent gray (10YR 6/1), and 30 percent yellowish brown (10YR 5/6) gravelly clay; moderate fine and medium subangular blocky structure; very firm; few fine roots; few fine discontinuous tubular pores; common distinct clay films on faces of peds; 30 percent chert gravel; very strongly acid; clear wavy boundary.

2Bt5—38 to 45 inches; 40 percent yellowish brown (10YR 5/6), 30 percent red (2.5YR 4/6), and 30 percent gray (10YR 6/1) clay; moderate fine subangular blocky structure; very firm; few fine roots; few fine discontinuous tubular pores; many prominent clay films on faces of peds; 10 percent chert gravel; very strongly acid; clear wavy boundary.

2Bt6—45 to 55 inches; 60 percent brownish yellow (10YR 6/8) and 40 percent strong brown (7.5YR 5/6) clay; weak fine subangular blocky structure; very firm; few fine roots; few fine discontinuous tubular pores; many distinct clay films on faces of peds; 5 percent chert gravel; moderately acid; gradual wavy boundary.

2Bt7—55 to 63 inches; 40 percent yellowish brown (10YR 5/6), 30 percent brownish yellow (10YR 6/8), and 30 percent strong brown (7.5YR 5/6) clay; weak fine subangular blocky structure; very firm; few fine roots; few fine discontinuous tubular pores; common distinct clay films on faces of peds; few fine soft masses of iron-manganese throughout; neutral; clear wavy boundary.

2Bt8—63 to 80 inches; 70 percent yellowish brown (10YR 5/6), 20 percent yellowish red (5YR 4/6), and 10 percent light brownish gray (10YR 6/2) clay; weak fine subangular blocky structure; very firm; few fine discontinuous tubular pores; common distinct clay films on faces of peds; common fine and medium soft masses of iron-manganese throughout; 10 percent chert gravel; neutral.

### Range in Characteristics

#### *A horizon:*

Content of rock fragments—20 to 70 percent gravel or cobbles

#### *BE horizon:*

Content of rock fragments—20 to 75 percent gravel or cobbles

Texture—silt loam or loam

*Bt horizon:*

Content of rock fragments—30 to 70 percent gravel or cobbles

Texture—silt loam or silty clay loam

*2Bt horizon:*

Content of rock fragments—0 to 30 percent gravel or cobbles

Texture—silty clay loam, silty clay, or clay

**Moko Series**

The Moko series consists of very shallow, somewhat excessively drained, moderately permeable soils on upland summits, shoulders, and backslopes. These soils formed in loamy residuum derived from dolostone. Slopes range from 3 to 35 percent.

*Taxonomic classification:* Loamy-skeletal, mixed, superactive, mesic Lithic Hapludolls

**Typical Pedon**

Moko extremely channery sandy clay loam, in an area of Moko-Rock outcrop complex, 15 to 35 percent slopes, extremely flaggy; about 900 feet east and 1,250 feet south of the northwest corner of sec. 18, T. 21 N., R. 14 W.; USGS Isabella topographic quadrangle; lat. 36 degrees 30 minutes 09 seconds N. and long. 92 degrees 33 minutes 04 seconds W.

A—0 to 6 inches; black (10YR 2/1) extremely channery sandy clay loam, dark gray (10YR 4/1) dry; moderate medium granular structure; friable; many fine and medium roots; 20 percent chert gravel, 35 percent dolomite channers, and 10 percent dolomite flagstones; slightly alkaline; clear wavy boundary.

R—6 inches; dolostone.

**Range in Characteristics**

*Depth to bedrock:* 4 to 20 inches

*A horizon:*

Content of rock fragments—35 to 80 percent gravel, cobbles, flagstones, or stones

Texture—silt loam, loam, silty clay loam, clay loam, or sandy clay loam

**Ocie Series**

The Ocie series consists of deep, moderately well drained, slowly permeable soils on upland summits, shoulders, and backslopes. These soils formed in hillslope sediments and in the underlying residuum

derived from cherty dolostone. Slopes range from 1 to 35 percent.

*Taxonomic classification:* Loamy-skeletal over clayey, mixed, semiactive, mesic Oxyaquic Hapludalfs

**Typical Pedon**

Ocie very gravelly silt loam, in an area of Mano-Ocie complex, 1 to 8 percent slopes; about 1,600 feet east and 1,000 feet south of the northwest corner of sec. 22, T. 23 N., R. 15 W.; USGS Willhoit topographic quadrangle; lat. 36 degrees 39 minutes 46 seconds N. and long. 92 degrees 35 minutes 59 seconds W.

Oi—0 to 1 inch; partially decomposed organic material.

A—1 to 5 inches; dark grayish brown (10YR 4/2) very gravelly silt loam, light brownish gray (10YR 6/2) dry; weak fine granular structure; friable; many fine to coarse roots; many very fine and fine interstitial and tubular pores; 55 percent chert gravel; very strongly acid; clear smooth boundary.

BE—5 to 12 inches; 50 percent yellowish brown (10YR 5/4) and 50 percent pale brown (10YR 6/3) extremely gravelly silt loam; moderate fine subangular blocky structure; friable; many fine to coarse roots; many fine and medium interstitial and tubular pores; 65 percent chert gravel; very strongly acid; clear smooth boundary.

Bt1—12 to 20 inches; 80 percent yellowish brown (10YR 5/4) and 20 percent strong brown (7.5YR 5/6) very gravelly silt loam; moderate fine subangular blocky structure; friable; common fine and medium roots; many fine and medium interstitial and tubular pores; common distinct clay films on faces of peds and in pores and common yellowish brown (10YR 5/4) clay depletions; 50 percent chert gravel; very strongly acid; clear smooth boundary.

Bt2—20 to 27 inches; 80 percent yellowish brown (10YR 5/6) and 20 percent strong brown (7.5YR 5/6) very gravelly silty clay loam; common fine and medium prominent gray (10YR 6/1) mottles; moderate fine subangular blocky structure; firm; common fine and medium roots; many fine and medium discontinuous tubular pores; common distinct clay films on faces of peds and in pores and common brown (10YR 5/3) clay depletions; 50 percent chert gravel; strongly acid; clear wavy boundary.

2Bt3—27 to 38 inches; yellowish brown (10YR 5/6) clay; weak medium subangular blocky structure; firm; few fine roots; common very fine and fine discontinuous tubular pores; common distinct clay



films on faces of peds and in pores; common fine and medium soft masses of iron-manganese throughout; neutral; clear smooth boundary.

2Bt4—38 to 49 inches; 80 percent yellowish brown (10YR 5/6) and 20 percent brownish yellow (10YR 6/6) clay; common fine and medium prominent light gray (10YR 7/1) mottles; moderate medium subangular blocky structure; firm; few fine roots; common very fine and fine discontinuous tubular pores; many distinct clay films on faces of peds and in pores; common fine and medium soft masses of iron-manganese throughout; 10 percent chert gravel; moderately alkaline.

2R—49 inches; dolostone.

### Range in Characteristics

*Depth to bedrock:* 40 to 60 inches

#### *A horizon:*

Content of rock fragments—15 to 65 percent gravel or cobbles

Texture—silt loam or loam

#### *BE horizon:*

Content of rock fragments—15 to 65 percent gravel or cobbles

Texture—silt loam or loam

#### *Bt horizon:*

Content of rock fragments—35 to 70 percent gravel or cobbles

Texture—silt loam, silty clay loam, loam, or clay loam

#### *2Bt horizon:*

Content of rock fragments—0 to 30 percent gravel or cobbles

Texture—silty clay loam, silty clay, or clay

## Pomme Series

The Pomme series consists of very deep, well drained, moderately permeable soils on strath terraces and footslopes. These soils formed in a mantle of loess and hillslope sediment over old alluvial sediments, residuum, or colluvium derived from dolostone. Slopes range from 1 to 8 percent.

*Taxonomic classification:* Fine-loamy, mixed, semiactive, mesic Typic Paleudalfs

### Typical Pedon

Pomme silt loam, bench, 1 to 8 percent slopes; about 2,350 feet east and 350 feet south of the northwest corner of sec. 20, T. 24 N., R. 13 W.; USGS

Rockbridge topographic quadrangle; lat. 36 degrees 45 minutes 04 seconds N. and long. 92 degrees 24 minutes 54 seconds W.

Ap—0 to 6 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; moderate fine granular structure; friable; many fine roots; 5 percent chert gravel; very strongly acid; abrupt smooth boundary.

Bt1—6 to 13 inches; brown (7.5YR 4/4) silt loam; weak fine subangular blocky structure; friable; common fine roots; few faint clay films on faces of peds; 10 percent chert gravel; strongly acid; clear smooth boundary.

Bt2—13 to 20 inches; 70 percent strong brown (7.5YR 4/6) and 30 percent yellowish red (5YR 4/6) gravelly silt loam; moderate fine subangular blocky structure; friable; common fine roots; common faint clay films on faces of peds; few fine iron-manganese concretions; 20 percent chert gravel; strongly acid; clear smooth boundary.

2Bt3—20 to 26 inches; 70 percent yellowish red (5YR 4/6) and 30 percent strong brown (7.5YR 5/6) gravelly clay loam; moderate fine subangular blocky structure; friable; common fine roots; common distinct clay films on faces of peds; common fine iron-manganese concretions; 15 percent chert gravel; moderately acid; gradual smooth boundary.

2Bt4—26 to 38 inches; red (2.5YR 4/6) gravelly clay loam; moderate fine subangular blocky structure; friable; common fine roots; many distinct clay films on faces of peds; common fine iron-manganese concretions; 25 percent chert gravel; moderately acid; gradual smooth boundary.

3Bt5—38 to 53 inches; dark red (2.5YR 3/6) very gravelly clay; moderate medium subangular blocky structure; friable; common fine roots; many prominent clay films on faces of peds; common fine iron-manganese concretions; 45 percent angular chert gravel; moderately acid; gradual smooth boundary.

3Bt6—53 to 80 inches; dark red (2.5YR 3/6) very gravelly clay; moderate medium subangular blocky structure; friable; many prominent clay films on faces of peds; 40 percent chert gravel and 5 percent chert cobbles; strongly acid.

### Range in Characteristics

#### *A horizon:*

Content of rock fragments—0 to 15 percent gravel

#### *Bt horizon:*

Content of rock fragments—0 to 35 percent gravel

Texture—silt loam or silty clay loam

*2Bt horizon:*

Content of rock fragments—5 to 50 percent gravel  
Texture—silty clay loam or clay loam

*3Bt horizon:*

Content of rock fragments—0 to 50 percent gravel  
Texture—silty clay loam, silty clay, or clay

**Poynor Series**

The Poynor series consists of very deep, well drained, moderately permeable soils on upland summits, shoulders, and backslopes. These soils formed in gravelly sediments and in the underlying clayey residuum derived from dolostone. Slopes range from 1 to 35 percent.

*Taxonomic classification:* Loamy-skeletal over clayey, siliceous, semiactive, mesic Typic Paleudults

**Typical Pedon**

Poynor very gravelly silt loam, 1 to 8 percent slopes; about 2,150 feet west and 2,500 feet north of the southeast corner of sec. 2, T. 24 N., R. 13 W.; USGS Gentryville topographic quadrangle; lat. 36 degrees 47 minutes 15 seconds N. and long. 92 degrees 21 minutes 23 seconds W.

Ap—0 to 4 inches; dark grayish brown (10YR 4/2) very gravelly silt loam, light gray (10YR 7/2) dry; moderate medium granular structure; friable; many fine roots; 50 percent chert gravel; neutral; clear smooth boundary.

E1—4 to 9 inches; brown (10YR 5/3) extremely gravelly silt loam; moderate medium granular structure; friable; many fine roots; 60 percent chert gravel; neutral; clear wavy boundary.

E2—9 to 13 inches; pale brown (10YR 6/3) extremely gravelly silt loam; weak fine subangular blocky structure; friable; many fine roots; 70 percent chert gravel; neutral; clear smooth boundary.

Bt1—13 to 20 inches; 70 percent strong brown (7.5YR 4/6) and 30 percent yellowish brown (10YR 5/4) very gravelly silt loam; weak fine subangular blocky structure; friable; few fine roots; common distinct clay films on faces of peds; 40 percent chert gravel and 10 percent chert cobbles; neutral; clear wavy boundary.

2Bt2—20 to 31 inches; 70 percent red (2.5YR 4/6) and 30 percent yellowish red (5YR 5/6) gravelly silty clay; moderate medium subangular blocky structure; friable; few fine roots; many distinct clay films on faces of peds and common light yellowish brown (10YR 6/4) clay depletions; 30 percent chert gravel; strongly acid; gradual wavy boundary.

2Bt3—31 to 42 inches; 60 percent red (10R 4/6), 30 percent red (2.5YR 4/8), and 10 percent light gray (10YR 7/2) gravelly clay; moderate fine subangular blocky structure; firm; few fine roots; many distinct clay films on faces of peds and common light yellowish brown (10YR 6/4) clay depletions; 30 percent chert gravel; very strongly acid; gradual wavy boundary.

2Bt4—42 to 74 inches; 65 percent red (10R 4/8), 20 percent yellowish red (5YR 5/6), and 15 percent light gray (10YR 7/2) gravelly clay; moderate fine subangular blocky structure; firm; few fine to coarse roots; many prominent clay films on faces of peds and common light yellowish brown (10YR 6/4) clay depletions; 30 percent chert gravel; very strongly acid; clear wavy boundary.

2Bt5—74 to 80 inches; 25 percent dark red (10R 3/6), 25 percent red (10R 4/8), 20 percent brownish yellow (10YR 6/8), 20 percent light brownish gray (10YR 6/2), and 10 percent light gray (10YR 7/1) clay; moderate fine subangular blocky structure; very firm; many prominent clay films on faces of peds; 10 percent chert gravel; very strongly acid.

**Range in Characteristics***A horizon:*

Content of rock fragments—20 to 60 percent gravel or cobbles

*E horizon:*

Content of rock fragments—30 to 70 percent gravel or cobbles  
Texture—silt loam or loam

*Bt horizon:*

Content of rock fragments—35 to 75 percent gravel or cobbles  
Texture—silt loam, loam, silty clay loam, or clay loam

*2Bt horizon:*

Content of rock fragments—0 to 30 percent gravel or cobbles  
Texture—silty clay or clay

**Racket Series**

The Racket series consists of very deep, well drained, moderately permeable soils on flood plains. These soils formed in loamy alluvium. Slopes range from 0 to 3 percent.

*Taxonomic classification:* Fine-loamy, mixed, superactive, mesic Cumulic Hapludolls

### Typical Pedon

Racket loam, 0 to 3 percent slopes, frequently flooded; about 350 feet south and 2,700 feet west of the northeast corner of sec. 11, T. 24 N., R. 13 W.; USGS Gentryville topographic quadrangle; lat. 36 degrees 46 minutes 47 seconds N. and long. 92 degrees 21 minutes 30 seconds W.

Ap—0 to 8 inches; very dark grayish brown (10YR 3/2) loam, brown (10YR 5/3) dry; weak fine granular structure; friable; many fine roots; neutral; gradual wavy boundary.

A1—8 to 20 inches; very dark grayish brown (10YR 3/2) loam, brown (10YR 5/3) dry; weak fine granular structure; friable; common fine roots; neutral; gradual wavy boundary.

A2—20 to 32 inches; very dark grayish brown (10YR 3/2) loam, brown (10YR 5/3) dry; weak fine subangular blocky structure; friable; common fine roots; neutral; gradual wavy boundary.

A3—32 to 44 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate fine granular structure; friable; common fine roots; neutral; clear wavy boundary.

A4—44 to 53 inches; very dark grayish brown (10YR 3/2) loam, grayish brown (10YR 5/2) dry; weak fine granular structure; friable; few fine roots; neutral; clear wavy boundary.

C1—53 to 63 inches; stratified dark brown (10YR 3/3) and yellowish brown (10YR 5/4) medium sandy loam; massive; very friable; neutral; abrupt wavy boundary.

C2—63 to 80 inches; stratified brown (10YR 4/3) and light yellowish brown (10YR 6/4) sand; single grain; loose; 5 percent chert gravel; neutral.

### Range in Characteristics

*Thickness of the mollic epipedon:* 20 to 53 inches

#### *Ap and A horizons:*

Content of rock fragments—0 to 15 percent gravel  
Texture—loam or silt loam

#### *Bw horizon:*

Content of rock fragments—0 to 25 percent gravel  
Texture—loam, clay loam, or silty clay loam

#### *C horizon:*

Content of rock fragments—0 to 80 percent gravel  
Texture—stratified fine sandy loam to coarse sand

### Razort Series

The Razort series consists of very deep, well drained, moderately permeable soils on low stream

terraces. These soils formed in silty alluvium. Slopes range from 0 to 3 percent.

*Taxonomic classification:* Fine-loamy, mixed, active, mesic Mollic Hapludalfs

### Typical Pedon

Razort silt loam, 0 to 3 percent slopes, rarely flooded; about 250 feet south and 1,050 feet west of the northeast corner of sec. 14, T. 21 N., R. 11 W.; USGS Bakersfield topographic quadrangle; lat. 36 degrees 30 minutes 00 seconds N. and long. 92 degrees 08 minutes 27 seconds W.

Ap—0 to 5 inches; dark brown (10YR 3/3) silt loam, pale brown (10YR 6/3) dry; moderate fine granular structure; friable; common fine and medium roots; few fine interstitial pores; neutral; clear smooth boundary.

A—5 to 9 inches; dark brown (10YR 3/3) silt loam, brown (10YR 5/3) dry; moderate fine granular structure; friable; few fine roots; few fine interstitial pores; 5 percent chert gravel; neutral; clear smooth boundary.

Bt1—9 to 17 inches; dark yellowish brown (10YR 4/4) silt loam; weak fine and medium subangular blocky structure; friable; few fine roots; common fine and medium tubular pores; few faint clay films on faces of peds and common dark brown (10YR 3/3) organic coatings in root channels and/or pores; neutral; clear smooth boundary.

Bt2—17 to 29 inches; dark yellowish brown (10YR 4/4) loam; moderate medium subangular blocky structure; friable; common fine and medium tubular pores; common distinct clay films on faces of peds and common dark grayish brown (10YR 4/2) organic coatings in root channels and/or pores; neutral; clear smooth boundary.

Bt3—29 to 37 inches; strong brown (7.5YR 4/6) clay loam; moderate fine and medium subangular blocky structure; firm; many medium and coarse tubular pores; common faint clay films on faces of peds and few black stains; 10 percent chert gravel; neutral; clear smooth boundary.

Bt4—37 to 46 inches; strong brown (7.5YR 5/6) loam; moderate medium subangular blocky structure; firm; many medium and coarse tubular pores; common distinct clay films on faces of peds and few reddish brown (5YR 4/4) masses of iron accumulation and common black stains and few light yellowish brown (10YR 6/4) clay depletions on faces of peds; 5 percent chert gravel; slightly acid; clear smooth boundary.

Bt5—46 to 54 inches; yellowish brown (10YR 5/4) sandy clay loam; weak medium subangular blocky

structure; friable; common medium and coarse tubular pores; few yellowish red (5YR 4/6) masses of iron accumulation and common distinct clay films on the yellowish red (5YR 4/6) material; 10 percent chert gravel; strongly acid; clear wavy boundary.

- C—54 to 80 inches; strong brown (7.5YR 5/6) very gravelly sandy loam; weak medium subangular blocky structure; friable; common medium and coarse tubular pores; few yellowish red (5YR 4/6) masses of iron accumulation, common distinct clay films on the yellowish red (5YR 4/6) material, and common light yellowish brown (10YR 6/4) clay depletions on faces of pedis; 60 percent chert gravel; strongly acid.

#### Range in Characteristics

##### *A horizon:*

Content of rock fragments—0 to 5 percent gravel

##### *Bt horizon:*

Content of rock fragments—0 to 15 percent gravel

Texture—silt loam, loam, or clay loam

##### *C horizon:*

Content of rock fragments—15 to 60 percent gravel

Texture—sandy loam

### **Relfe Series**

The Relfe series consists of very deep, excessively drained, rapidly permeable soils on flood plains. These soils formed in gravelly alluvium. Slopes range from 0 to 3 percent.

*Taxonomic classification:* Sandy-skeletal, siliceous, mesic Mollic Udifluvents

#### Typical Pedon

Relfe very gravelly sandy loam, in an area of Relfe-Sandbur complex, 0 to 3 percent slopes, frequently flooded; about 2,400 feet west and 700 feet south of the northeast corner of sec. 18, T. 23 N., R. 12 W.; USGS Sycamore topographic quadrangle; lat. 36 degrees 40 minutes 35 seconds N. and long. 92 degrees 19 minutes 21 seconds W.

- A—0 to 6 inches; very dark grayish brown (10YR 3/2) very gravelly sandy loam, light brownish gray (10YR 6/2) dry; weak fine granular structure; very friable; many fine to coarse roots; common fine interstitial and tubular pores; 45 percent chert gravel and 10 percent chert cobbles; very strongly acid (pH 4.9); clear smooth boundary.

- C1—6 to 15 inches; stratified very dark grayish brown

(10YR 3/2) and brown (10YR 4/3) extremely gravelly fine sandy loam; single grain; loose; common fine and medium roots; common fine interstitial and tubular pores; 45 percent chert gravel and 20 percent chert cobbles; very strongly acid (pH 4.8); clear smooth boundary.

- C2—15 to 27 inches; stratified brown (10YR 4/3) and very dark grayish brown (10YR 3/2) extremely gravelly loamy sand; single grain; loose; few fine and medium roots; common fine interstitial and tubular pores; 70 percent chert gravel and 10 percent chert cobbles; very strongly acid (pH 4.9); clear smooth boundary.

- C3—27 to 42 inches; stratified very dark grayish brown (10YR 3/2) and brown (10YR 4/3) extremely gravelly loamy sand; single grain; loose; common fine interstitial and tubular pores; 60 percent chert gravel and 25 percent chert cobbles; very strongly acid (pH 4.8); clear smooth boundary.

- C4—42 to 80 inches; stratified brown (10YR 4/3) and very dark grayish brown (10YR 3/2) extremely gravelly loamy sand; single grain; loose; common fine interstitial and tubular pores; 60 percent chert gravel and 20 percent chert cobbles; strongly acid (pH 5.0).

#### Range in Characteristics

##### *A horizon:*

Content of rock fragments—35 to 80 percent gravel or cobbles

##### *C horizon:*

Content of rock fragments—35 to 85 percent gravel, cobbles, or stones

Texture—stratified fine sandy loam to coarse sand

### **Rueter Series**

The Rueter series consists of very deep, somewhat excessively drained, moderately rapidly permeable soils on upland backslopes. These soils formed in locally transported silty colluvial materials and in residuum derived from cherty limestone. Slopes range from 15 to 50 percent.

*Taxonomic classification:* Loamy-skeletal, siliceous, active, mesic Typic Paleudalfs

#### Typical Pedon

Rueter extremely gravelly silt loam, in an area of Rueter-Rock outcrop complex, 15 to 50 percent slopes, very stony; about 2,400 feet west and 2,000 feet north of the southeast corner of sec. 7, T. 21 N., R. 13 W.; USGS Gainesville topographic quadrangle; lat.



36 degrees 37 minutes 06 seconds N. and long. 92 degrees 26 minutes 08 seconds W.

Oi—0 to 1 inch; partially decomposed leaves and moss with roots that bind the litter into a mat.

A—1 to 4 inches; dark grayish brown (10YR 4/2) extremely gravelly silt loam, light brownish gray (10YR 6/2) dry; weak fine granular structure; friable; many fine and medium roots; 65 percent chert gravel; strongly acid; clear smooth boundary.

E1—4 to 11 inches; brown (10YR 5/3) very gravelly silt loam; moderate medium granular structure; friable; many fine and common coarse roots; 40 percent chert gravel and 10 percent chert cobbles; strongly acid; clear smooth boundary.

E2—11 to 19 inches; light yellowish brown (10YR 6/4) very gravelly silt loam; weak fine subangular blocky structure; friable; common fine and few medium roots; 50 percent chert gravel; strongly acid; clear wavy boundary.

Bt1—19 to 33 inches; strong brown (7.5YR 5/6) very gravelly silt loam; moderate medium subangular blocky structure; firm; few fine roots; common distinct clay films on faces of peds; 40 percent chert gravel and 10 percent chert cobbles; strongly acid; clear smooth boundary.

Bt2—33 to 43 inches; 70 percent strong brown (7.5YR 5/6) and 30 percent red (2.5YR 4/6) gravelly silty clay loam; moderate medium subangular blocky structure; firm; few fine roots; common distinct clay films on faces of peds and common light yellowish brown (10YR 6/4) clay depletions; 30 percent chert gravel; strongly acid; gradual smooth boundary.

Bt3—43 to 59 inches; 60 percent strong brown (7.5YR 5/6) and 40 percent red (2.5YR 4/6) gravelly clay loam; moderate medium subangular blocky structure; firm; few fine roots; many distinct clay films on faces of peds and common light yellowish brown (10YR 6/4) clay depletions; 15 percent chert gravel and 10 percent sandstone gravel; strongly acid; gradual smooth boundary.

2Bt4—59 to 80 inches; 60 percent strong brown (7.5YR 5/6) and 40 percent red (2.5YR 4/6) very cobbly clay loam; moderate medium subangular blocky structure; firm; few fine roots; many distinct clay films on faces of peds; 20 percent chert gravel, 10 percent sandstone gravel, 15 percent chert cobbles, and 5 percent sandstone cobbles; strongly acid.

### Range in Characteristics

#### *A horizon:*

Content of rock fragments—35 to 70 percent gravel or cobbles

#### *E horizon:*

Content of rock fragments—25 to 50 percent gravel or cobbles

#### *Bt horizon:*

Content of rock fragments—25 to 75 percent gravel or cobbles

Texture—silt loam, loam, silty clay loam, or clay loam

#### *2Bt horizon:*

Content of rock fragments—5 to 75 percent gravel or cobbles

Texture—silty clay, clay, or silty clay loam

## **Sandbur Series**

The Sandbur series consists of very deep, somewhat excessively drained, rapidly permeable soils on flood plains along streams of intermediate size. These soils formed in loamy alluvium. They are near active channels. Slopes range from 0 to 3 percent.

*Taxonomic classification:* Coarse-loamy, siliceous, superactive, nonacid, mesic Mollic Udifluvents

### Typical Pedon

Sandbur fine sandy loam, 0 to 3 percent slopes, frequently flooded; about 2,000 feet east and 50 feet north of the southwest corner of sec. 2, T. 24 N., R. 13 W.; USGS Gentryville topographic quadrangle; lat. 36 degrees 46 minutes 51 seconds N. and long. 92 degrees 21 minutes 38 seconds W.

Ap—0 to 8 inches; very dark grayish brown (10YR 3/2) fine sandy loam, grayish brown (10YR 5/2) dry; moderate coarse granular structure; friable; many fine and medium roots; neutral; clear smooth boundary.

C1—8 to 11 inches; stratified yellowish brown (10YR 5/4) and very dark grayish brown (10YR 3/2) loamy sand; single grain; loose; common fine and medium roots; slightly acid; clear smooth boundary.

C2—11 to 21 inches; stratified very dark grayish brown (10YR 3/2) and yellowish brown (10YR 5/4) fine sandy loam; weak medium subangular blocky structure; friable; few fine and medium roots; slightly acid; gradual smooth boundary.

Ab—21 to 33 inches; stratified very dark gray (10YR 3/1) and yellowish brown (10YR 5/4) silt loam; weak fine granular structure; friable; few medium and coarse roots; neutral; gradual smooth boundary.

C'1—33 to 48 inches; stratified brown (10YR 4/3),

very dark gray (10YR 3/1), and yellowish brown (10YR 5/4) loamy fine sand; single grain; loose; few medium and coarse roots; neutral; gradual wavy boundary.

C<sup>2</sup>—48 to 66 inches; stratified dark yellowish brown (10YR 4/4), light yellowish brown (10YR 6/4), and very dark gray (10YR 3/1) fine sand; single grain; loose; neutral; clear wavy boundary.

C<sup>3</sup>—66 to 80 inches; stratified dark grayish brown (10YR 4/2) and light yellowish brown (10YR 6/4) loamy fine sand; single grain; loose; organic stains; neutral.

### Range in Characteristics

#### *A horizon:*

Content of rock fragments—0 to 10 percent gravel

#### *C horizon:*

Content of rock fragments—0 to 10 percent gravel

Texture—stratified fine sandy loam, sandy loam, loamy fine sand, fine sand, or sand

## Scholten Series

The Scholten series consists of very deep, moderately well drained soils on upland summits and shoulders. These soils formed in residuum derived from cherty dolostone. They have a fragipan. Permeability is moderate above the fragipan, very slow in the fragipan, and moderately rapid below the fragipan. Slopes range from 3 to 15 percent.

*Taxonomic classification:* Loamy-skeletal, siliceous, active, mesic Typic Fragiudults

### Typical Pedon

Scholten gravelly silt loam, in an area of Scholten-Poynor complex, 3 to 8 percent slopes; about 875 feet west and 2,000 feet south of the northeast corner of sec. 6, T. 24 N., R. 15 W.; USGS Smallett topographic quadrangle; lat. 36 degrees 47 minutes 55 seconds N. and long. 92 degrees 38 minutes 30 seconds W.

A—0 to 4 inches; grayish brown (10YR 5/2) gravelly silt loam, light gray (10YR 7/2) dry; weak fine granular structure; friable; many fine to coarse roots; many fine and medium interstitial and tubular pores; 15 percent chert gravel; very strongly acid; clear smooth boundary.

E—4 to 9 inches; light yellowish brown (10YR 6/4) gravelly silt loam; weak fine subangular blocky structure; friable; many fine to coarse roots; many fine and medium interstitial and tubular pores; few brown (10YR 5/3) organic coatings in root

channels and/or pores; 15 percent chert gravel; very strongly acid; clear smooth boundary.

Bt<sup>1</sup>—9 to 15 inches; yellowish brown (10YR 5/6) gravelly silt loam; moderate fine subangular blocky structure; friable; common fine to coarse roots; many fine and medium interstitial and tubular pores; common distinct clay films on faces of peds and common light yellowish brown (10YR 6/4) clay depletions; 20 percent chert gravel; very strongly acid; clear smooth boundary.

Bt<sup>2</sup>—15 to 22 inches; strong brown (7.5YR 5/6) extremely gravelly silt loam; moderate fine subangular blocky structure; friable; common fine and medium roots; many fine and medium interstitial and tubular pores; common distinct clay films on faces of peds and common light yellowish brown (10YR 6/4) clay depletions; 60 percent chert gravel; very strongly acid; clear wavy boundary.

2Bt<sup>x1</sup>—22 to 29 inches; 60 percent strong brown (7.5YR 5/6), 20 percent gray (10YR 6/1), and 10 percent brownish yellow (10YR 6/8) extremely gravelly silt loam; weak coarse prismatic structure parting to moderate fine and medium subangular blocky; friable, brittle; common fine interstitial and tubular pores; common fine and medium roots in gray (10YR 6/1) seams; common distinct clay films on faces of peds; 65 percent mixed gravel and 5 percent mixed cobbles; very strongly acid; gradual wavy boundary.

2Bt<sup>x2</sup>—29 to 39 inches; 60 percent strong brown (7.5YR 5/6), 20 percent light brownish gray (2.5Y 6/2), and 10 percent brownish yellow (10YR 6/8) extremely gravelly silt loam; weak coarse prismatic structure parting to moderate fine and medium subangular blocky; friable, brittle; common fine interstitial and tubular pores; common fine and medium roots in light brownish gray (2.5Y 6/2) seams; common distinct clay films on faces of peds; 55 percent chert gravel and 5 percent chert cobbles; very strongly acid; clear smooth boundary.

3Bt<sup>1</sup>—39 to 59 inches; 50 percent red (2.5YR 4/6), 40 percent strong brown (7.5YR 5/6), and 10 percent light brownish gray (10YR 6/2) gravelly silty clay; moderate medium subangular blocky structure; firm; few fine roots; few very fine and fine discontinuous tubular pores; common distinct dark red (2.5YR 3/6) clay films and few distinct strong brown (7.5YR 4/6) clay films on faces of peds; 30 percent chert gravel; very strongly acid; clear smooth boundary.

3Bt<sup>2</sup>—59 to 80 inches; 50 percent red (10R 4/6), 30

percent gray (10YR 6/1), 15 percent yellowish brown (10YR 5/6), and 5 percent white (10YR 8/1) very gravelly clay; weak medium subangular blocky structure parting to moderate fine subangular blocky; firm; few fine roots; few very fine and fine discontinuous tubular pores; common prominent dark red (10R 3/6) clay films and common prominent gray (10YR 5/1) clay films on faces of peds; 35 percent chert gravel and 5 percent chert cobbles; extremely acid.

### Range in Characteristics

*Depth to the fragipan:* 17 to 32 inches

#### *A horizon:*

Content of rock fragments—15 to 40 percent gravel or cobbles

#### *E horizon:*

Content of rock fragments—15 to 25 percent gravel or cobbles

#### *Bt horizon:*

Content of rock fragments—20 to 75 percent gravel or cobbles

Texture—silt loam or loam

#### *2Btx horizon:*

Content of rock fragments—20 to 70 percent gravel or cobbles

Texture—silty clay loam or silt loam

#### *3Bt horizon:*

Content of rock fragments—15 to 40 percent gravel or cobbles

Texture—silty clay, clay, or silty clay loam

## Secesh Series

The Secesh series consists of very deep, well drained, moderately permeable soils on stream terraces. These soils formed in loamy alluvium and in the underlying cherty alluvium. Slopes range from 0 to 3 percent.

*Taxonomic classification:* Fine-loamy, siliceous, active, mesic Ultic Hapludalfs

### Typical Pedon

Secesh loam, 0 to 3 percent slopes, occasionally flooded; about 2,100 feet east and 2,100 feet south of the northwest corner of sec. 20, T. 24 N., R. 13 W.; USGS Gainesville Northwest topographic quadrangle; lat. 36 degrees 44 minutes 47 seconds N. and long. 92 degrees 24 minutes 55 seconds W.

Ap—0 to 8 inches; dark yellowish brown (10YR 3/4)

loam, light yellowish brown (10YR 6/4) dry; moderate fine granular structure; friable; many fine roots; 10 percent chert gravel; moderately acid; clear smooth boundary.

Bt1—8 to 17 inches; strong brown (7.5YR 4/6) loam; moderate medium subangular blocky structure; friable; many fine roots; 30 percent dark yellowish brown (10YR 3/4) material from the surface layer in root channels and pores; common distinct clay films on faces of peds; 10 percent chert gravel; moderately acid; clear smooth boundary.

Bt2—17 to 23 inches; strong brown (7.5YR 5/6) loam; weak medium subangular blocky structure; friable; common fine roots; common distinct clay films on faces of peds; 10 percent chert gravel; moderately acid; clear smooth boundary.

2Bt3—23 to 29 inches; strong brown (7.5YR 5/6) very gravelly loam; weak fine subangular blocky structure; friable; common fine roots; few distinct clay films on faces of peds; 50 percent chert gravel; strongly acid; clear smooth boundary.

2Bt4—29 to 39 inches; 80 percent strong brown (7.5YR 4/6) and 20 percent yellowish brown (10YR 5/4) very gravelly sandy clay loam; weak medium subangular blocky structure; friable; common fine roots; few distinct clay films on faces of peds; many iron-manganese concretions; 40 percent chert gravel; strongly acid; clear wavy boundary.

2C1—39 to 48 inches; strong brown (7.5YR 4/6) extremely gravelly sandy loam; weak medium subangular blocky structure; friable; common fine roots; few distinct clay films on faces of peds; 55 percent chert gravel and 10 percent chert cobbles; moderately acid; clear smooth boundary.

2C2—48 to 80 inches; 80 percent dark yellowish brown (10YR 4/6) and 20 percent light brownish gray (10YR 6/2) extremely gravelly sandy loam; massive; friable; common black stains on rock fragments; 60 percent chert gravel and 20 percent chert cobbles; moderately acid.

### Range in Characteristics

#### *A horizon:*

Content of rock fragments—0 to 15 percent gravel

#### *Bt horizon:*

Content of rock fragments—0 to 25 percent gravel  
Texture—silt loam, loam, silty clay loam, or clay loam

#### *2Bt horizon:*

Content of rock fragments—25 to 50 percent gravel or cobbles  
Texture—loam, clay loam, or sandy clay loam

*2C horizon:*

Content of rock fragments—35 to 80 percent gravel or cobbles

Texture—sandy loam

**Splitlimb Series**

The Splitlimb series consists of very deep, somewhat poorly drained, moderately permeable soils on upland divides and in sinkholes. These soils formed in loess and silty sediments. Slopes range from 0 to 3 percent.

*Taxonomic classification:* Fine-silty, mixed, active, mesic Aquic Paleudults

**Typical Pedon**

Splitlimb silt loam, 0 to 3 percent slopes, frequently ponded; about 2,200 feet north and 1,200 feet east of the southwest corner of sec. 33, T. 33 N., R. 8 W.; USGS Maples topographic quadrangle; lat. 37 degrees 31 minutes 04 seconds N. and long. 91 degrees 49 minutes 24 seconds W.; in Texas County, Missouri:

Ap—0 to 10 inches; dark brown (10YR 3/3) silt loam, pale brown (10YR 6/3) dry; moderate very fine granular structure; very friable; many fine roots; many fine irregular and common fine tubular pores; moderately acid; abrupt smooth boundary.

Bt1—10 to 15 inches; dark yellowish brown (10YR 4/4) silt loam; moderate very fine subangular blocky structure; very friable; common very fine roots; many fine tubular pores; few distinct clay films on faces of peds; few fine faint brown (10YR 5/3) masses of iron accumulation; strongly acid; clear smooth boundary.

Bt2—15 to 20 inches; dark yellowish brown (10YR 4/4) silt loam; weak fine subangular blocky structure; friable; common very fine roots; many fine tubular pores; few distinct clay films on faces of peds; common distinct light brownish gray (10YR 6/2) iron depletions; common medium prominent strong brown (7.5YR 4/6) masses of iron accumulation; very strongly acid; clear smooth boundary.

Bt3—20 to 25 inches; light brownish gray (10YR 6/2) silt loam; strong medium platy structure; firm; few very fine roots; common fine tubular and few medium vesicular pores; common distinct clay films on faces of peds; common fine faint grayish brown (10YR 5/2) iron depletions; common fine prominent yellowish brown (10YR 5/6) masses of iron accumulation; common prominent black (N 2/0) masses of iron and manganese oxide

accumulation on faces of peds; very strongly acid; clear smooth boundary.

Bt4—25 to 34 inches; dark brown (7.5YR 4/4) and brown (10YR 5/3) silty clay loam; moderate medium platy structure; firm; few very fine roots; many very fine tubular pores; common prominent clay films on faces of peds; common fine prominent gray (10YR 6/1) iron depletions; common prominent black (N 2/0) masses of iron and manganese oxide accumulation on faces of peds; very strongly acid; gradual smooth boundary.

2Bt5—34 to 80 inches; yellowish red (5YR 4/6) and yellowish brown (10YR 5/4) silty clay loam; weak medium platy structure parting to moderate fine angular blocky; firm; many very fine tubular pores; common prominent clay films on faces of peds; common fine prominent gray (10YR 6/1) iron depletions; very strongly acid.

**Range in Characteristics***A horizon:*

Content of rock fragments—0 to 5 percent gravel

*Bt horizon:*

Content of rock fragments—0 to 10 percent gravel  
Texture—silt loam, loam, or silty clay loam

*2Bt horizon:*

Content of rock fragments—0 to 10 percent gravel  
Texture—silt loam or silty clay loam

**Tanglenook Series**

The Tanglenook series consists of very deep, poorly drained, slowly permeable soils on terraces. These soils formed in silty and clayey alluvium. Slopes range from 0 to 3 percent.

*Taxonomic classification:* Fine, mixed, superactive, mesic Typic Argiaquolls

**Typical Pedon**

Tanglenook silt loam, 0 to 3 percent slopes, rarely flooded; about 275 feet west and 2,075 feet north of the southeast corner of sec. 18, T. 23 N., R. 15 W.; USGS Thornfield topographic quadrangle; lat. 36 degrees 40 minutes 21 seconds N. and long. 92 degrees 38 minutes 31 seconds W.

Ap—0 to 8 inches; very dark gray (10YR 3/1) silt loam, gray (10YR 5/1) dry; moderate fine granular structure; friable; many fine roots; many very fine discontinuous tubular pores; neutral; clear smooth boundary.



A—8 to 13 inches; very dark gray (10YR 3/1) silty clay loam, gray (10YR 5/1) dry; moderate fine granular structure; friable; many fine roots; many very fine discontinuous tubular pores; neutral; clear smooth boundary.

Bt1—13 to 18 inches; very dark gray (10YR 3/1) silty clay loam, gray (10YR 5/1) dry; weak fine subangular blocky structure; firm; common fine roots; common fine discontinuous tubular pores; common distinct clay films on faces of peds; 10 percent yellowish brown (10YR 5/6) soft masses of iron; neutral; clear smooth boundary.

Bt2—18 to 27 inches; 40 percent very dark grayish brown (10YR 3/2), 40 percent light brownish gray (10YR 6/2), and 20 percent light yellowish brown (2.5Y 6/4) silty clay loam; moderate medium subangular blocky structure; firm; few fine roots; common very fine discontinuous tubular pores; many prominent clay films on faces of peds; common yellowish brown (10YR 5/6) soft masses of iron; common fine and medium iron-manganese concretions throughout; neutral; clear smooth boundary.

Btg1—27 to 34 inches; 75 percent light brownish gray (10YR 6/2) and 25 percent gray (10YR 5/1) silty clay loam; moderate medium subangular blocky structure; firm; few fine roots; few very fine discontinuous tubular pores; many prominent clay films on faces of peds; common yellowish brown (10YR 5/6) and light reddish brown (2.5YR 6/4) soft masses of iron; common fine and medium iron-manganese concretions throughout; slightly alkaline; gradual smooth boundary.

Btg2—34 to 44 inches; 50 percent gray (10YR 6/1) and 50 percent gray (10YR 5/1) silty clay loam; moderate medium subangular blocky structure; firm; few very fine discontinuous tubular pores; many prominent clay films on faces of peds and common prominent strong brown (7.5YR 5/8) iron stains throughout; few yellowish brown (10YR 5/6) soft masses of iron; few fine iron-manganese concretions throughout; 5 percent angular chert gravel; slightly alkaline; gradual smooth boundary.

Btg3—44 to 80 inches; gray (2.5Y 6/1) silty clay; weak medium subangular blocky structure; firm; common very fine discontinuous tubular pores; common distinct clay films on faces of peds; common yellowish brown (10YR 5/8) soft masses of iron; common fine and medium iron-manganese concretions throughout; slightly alkaline.

#### Range in Characteristics

*Thickness of the mollic epipedon:* 18 to 20 inches

*Bt horizon:*

Texture—silty clay loam or clay

*Btg horizon:*

Texture—clay, silty clay, or silty clay loam

### Tick Series

The Tick series consists of deep, well drained, moderately slowly permeable soils on uplands. These soils formed in dense, clayey lacustrine sediments. Slopes range from 15 to 50 percent.

*Taxonomic classification:* Fine, mixed, subactive, mesic Typic Hapludults

#### Typical Pedon

Tick extremely gravelly silt loam, 15 to 50 percent slopes, very stony; about 925 feet north and 750 feet east of the southwest corner of sec. 11, T. 21 N., R. 11 W.; USGS Bakersfield topographic quadrangle; lat. 36 degrees 30 minutes 12 seconds N. and long. 92 degrees 08 minutes 42 seconds W.

Ap—0 to 6 inches; dark grayish brown (10YR 4/2) extremely gravelly silt loam, light gray (10YR 7/2) dry; moderate fine granular structure; friable; many fine roots; many very fine interstitial pores; 70 percent chert gravel; strongly acid; clear smooth boundary.

E—6 to 11 inches; light yellowish brown (10YR 6/4) very gravelly loam; weak fine subangular blocky structure; friable; many fine roots; many very fine interstitial pores; few dark grayish brown (10YR 4/2) organic coatings in root channels and/or pores; 40 percent chert gravel; strongly acid; clear smooth boundary.

Bt1—11 to 18 inches; 50 percent brownish yellow (10YR 6/6) and 50 percent strong brown (7.5YR 5/8) gravelly loam; moderate fine subangular blocky structure; friable; common fine roots; many very fine discontinuous tubular pores; common distinct clay films on faces of peds and few dark grayish brown (10YR 4/2) organic coatings in root channels and/or pores; 15 percent chert gravel; strongly acid; clear smooth boundary.

2Bt2—18 to 26 inches; 70 percent strong brown (7.5YR 5/8) and 30 percent brownish yellow (10YR 6/6) silty clay; moderate medium subangular blocky structure; firm; common fine roots; few very fine discontinuous tubular pores; common distinct clay films on faces of peds; 10 percent chert gravel; very strongly acid; gradual smooth boundary.

2Bt3—26 to 35 inches; 60 percent strong brown (7.5YR 5/8) and 40 percent yellowish red (5YR 5/8) clay; moderate medium subangular blocky structure; firm; few fine and medium roots; few very fine discontinuous tubular pores; common distinct clay films on faces of peds; 10 percent chert gravel; very strongly acid; clear wavy boundary.

2Bt4—35 to 42 inches; 45 percent yellowish red (5YR 4/6), 40 percent strong brown (7.5YR 5/6), 10 percent brownish yellow (10YR 6/6), and 5 percent light gray (10YR 7/1) clay; moderate medium subangular blocky structure; firm; few fine roots; few very fine discontinuous tubular pores; common prominent clay films on faces of peds; 10 percent chert gravel; very strongly acid; clear wavy boundary.

2Bt5—42 to 50 inches; 40 percent yellowish red (5YR 4/6), 40 percent brownish yellow (10YR 6/8), and 20 percent light gray (10YR 7/1) clay; moderate medium subangular blocky structure; firm; few very fine discontinuous tubular pores; common distinct clay films on faces of peds; very strongly acid; clear wavy boundary.

2Cd—50 to 80 inches; yellow (10YR 7/8), white (10YR 8/1), and strong brown (7.5YR 5/8), weathered dolostone.

#### Range in Characteristics

*Depth to dense layer:* 40 to 60 inches

#### *A horizon:*

Content of rock fragments—30 to 70 percent gravel or cobbles

#### *E horizon:*

Content of rock fragments—30 to 75 percent gravel or cobbles

#### *Bt horizon:*

Content of rock fragments—15 to 35 percent gravel or cobbles

Texture—silt loam or loam

#### *2Bt horizon:*

Content of rock fragments—0 to 20 percent gravel or cobbles

Texture—silty clay or clay

### Tonti Series

The Tonti series consists of very deep, moderately well drained soils on upland summits. These soils formed in loamy sediments and in the underlying cherty residuum derived from dolostone. They have a

fragipan. Permeability is moderate above the fragipan, very slow in the fragipan, and slow below the fragipan. Slopes range from 1 to 8 percent.

*Taxonomic classification:* Fine-loamy, mixed, active, mesic Typic Fragiudults

#### Typical Pedon

Tonti silt loam, 1 to 3 percent slopes; about 2,050 feet east and 350 feet south of the northwest corner of sec. 3, T. 24 N., R. 12 W.; USGS Gentryville topographic quadrangle; lat. 36 degrees 47 minutes 47 seconds N. and long. 92 degrees 16 minutes 08 seconds W.

Ap—0 to 5 inches; brown (10YR 4/3) silt loam, very pale brown (10YR 7/3) dry; moderate medium granular structure; friable; many fine roots; 5 percent gravel; strongly acid; clear smooth boundary.

Bt1—5 to 11 inches; yellowish brown (10YR 5/6) silt loam; weak medium subangular blocky structure; friable; common fine roots; common distinct clay films on faces of peds; 5 percent chert gravel; strongly acid; gradual smooth boundary.

Bt2—11 to 19 inches; yellowish brown (10YR 5/6) silty clay loam; moderate fine subangular blocky structure; friable; common fine roots; common distinct clay films on faces of peds; 10 percent chert gravel; very strongly acid; clear smooth boundary.

2Btx—19 to 35 inches; 60 percent strong brown (7.5YR 5/6) and 40 percent yellowish brown (10YR 5/4) very gravelly silt loam; dark gray (10YR 4/1) and gray (10YR 6/1) seams; weak very coarse prismatic structure parting to moderate medium subangular blocky; firm; 85 percent brittleness; few fine roots in gray seams; many distinct clay films on faces of peds; 50 percent chert gravel; very strongly acid; clear wavy boundary.

3Bt1—35 to 43 inches; 60 percent strong brown (7.5YR 5/6), 20 percent yellowish brown (10YR 5/4), and 20 percent gray (10YR 5/1) gravelly silty clay; moderate medium subangular blocky structure; firm; many distinct clay films on faces of peds; 30 percent chert gravel; very strongly acid; clear wavy boundary.

3Bt2—43 to 58 inches; 65 percent strong brown (7.5YR 5/6), 20 percent red (10R 4/6), 10 percent grayish brown (10YR 5/2), and 5 percent light brownish gray (10YR 6/2) clay; moderate medium subangular blocky structure; firm; many prominent clay films on faces of peds; 10 percent chert gravel; very strongly acid; clear smooth boundary.

3Bt3—58 to 80 inches; 50 percent strong brown

(7.5YR 5/6), 30 percent gray (10YR 6/1), and 20 percent red (2.5YR 4/6) clay; moderate medium subangular blocky structure; firm; many prominent clay films on faces of peds; 5 percent chert gravel; extremely acid.

#### Range in Characteristics

*Depth to the fragipan:* 15 to 25 inches

#### *A horizon:*

Content of rock fragments—0 to 15 percent gravel or cobbles

#### *Bt horizon:*

Content of rock fragments—0 to 35 percent gravel or cobbles

Texture—silt loam or silty clay loam

#### *2Btx horizon:*

Content of rock fragments—20 to 75 percent gravel or cobbles

Texture—silt loam or silty clay loam

#### *3Bt horizon:*

Content of rock fragments—5 to 75 percent gravel or cobbles

Texture—silty clay or clay

### Topazmill Series

The Topazmill series consists of very deep, well drained, moderately permeable soils on footslopes. These soils formed in loamy slope alluvium and colluvium. Slopes range from 8 to 15 percent.

*Taxonomic classification:* Fine-loamy, siliceous, semiactive, mesic Typic Paleudults

#### Typical Pedon

Topazmill loam, 3 to 8 percent slopes; about 1,600 feet east and 1,100 feet north of the southwest corner of sec. 3, T. 23 N., R. 12 W.; USGS Sycamore topographic quadrangle; lat. 36 degrees 41 minutes 44 seconds N. and long. 92 degrees 16 minutes 21 seconds W.

Ap—0 to 4 inches; brown (10YR 4/3) loam, pale brown (10YR 6/3) dry; weak fine granular structure; friable; many fine roots; neutral; clear smooth boundary.

BA—4 to 8 inches; yellowish brown (10YR 5/6) fine sandy loam; weak fine subangular blocky structure; friable; common fine roots; few faint clay films on faces of peds and dark grayish brown (10YR 4/2) coatings; neutral; clear smooth boundary.

Bt1—8 to 17 inches; strong brown (7.5YR 4/6) fine

sandy loam; weak fine subangular blocky structure; friable; few fine roots; few faint distinct discontinuous yellowish red (5YR 5/6) clay films on faces of peds and pale brown (10YR 6/3) clay depletions; strongly acid; gradual smooth boundary.

Bt2—17 to 26 inches; strong brown (7.5YR 5/6) fine sandy loam; weak medium subangular blocky structure; firm; common fine prominent yellowish red (5YR 5/6) and common medium prominent red (2.5YR 4/6) clay films on faces of peds and few light brownish gray (10YR 6/3) clay depletions; very strongly acid; clear smooth boundary.

2Bt3—26 to 37 inches; strong brown (7.5YR 5/6) sandy clay loam; moderate medium subangular blocky structure; firm; many coarse prominent discontinuous red (2.5YR 3/6) and common medium prominent yellowish brown (10YR 5/4) clay films on faces of peds and few light brownish gray (10YR 6/3) clay depletions; very strongly acid; clear smooth boundary.

2Bt4—37 to 57 inches; 25 percent red (10R 4/6), 25 percent yellowish brown (10YR 5/4), 25 percent strong brown (7.5YR 5/6), and 25 percent pale brown (10YR 6/3) clay loam; moderate medium subangular blocky structure; firm; common distinct clay films on faces of peds; very strongly acid; gradual smooth boundary.

2Bt5—57 to 80 inches; red (2.5YR 4/6) clay loam; weak medium subangular blocky structure; firm; many prominent strong brown (7.5YR 5/6) and common yellowish brown (10YR 5/4) clay films on faces of peds and common pale brown (10YR 6/3) clay depletions; very strongly acid.

#### Range in Characteristics

#### *A horizon:*

Content of rock fragments—0 to 10 percent gravel or cobbles

#### *Bt horizon:*

Content of rock fragments—0 to 35 percent gravel or cobbles

Texture—loam, fine sandy loam, clay loam, or sandy clay loam

#### *2Bt horizon:*

Content of rock fragments—0 to 20 percent gravel or cobbles

Texture—loam, clay loam, or sandy clay loam

### Viraton Series

The Viraton series consists of very deep, moderately well drained soils on upland summits.

These soils formed in a thin mantle of loamy material and in the underlying cherty residuum derived from dolostone. They have a fragipan. Permeability is moderate above the fragipan, very slow in the fragipan, and moderately slow below the fragipan. Slopes range from 1 to 8 percent.

*Taxonomic classification:* Fine-loamy, siliceous, active, mesic Oxyaquic Fragiudalfs

### Typical Pedon

Viraton silt loam, 1 to 3 percent slopes; about 875 feet north and 2,575 feet west of the southeast corner of sec. 10, T. 22 N., R. 15 W.; USGS Isabella topographic quadrangle; lat. 36 degrees 35 minutes 47 seconds N. and long. 92 degrees 35 minutes 53 seconds W.

Ap—0 to 7 inches; dark grayish brown (10YR 4/2) silt loam, light gray (10YR 7/2) dry; moderate medium granular structure; friable; many fine roots; 10 percent chert gravel; strongly acid; clear smooth boundary.

Bt1—7 to 16 inches; yellowish brown (10YR 5/4) gravelly silt loam; moderate fine subangular blocky structure; friable; common fine roots; mixing of brown (10YR 4/3) material in root channels; few faint clay films on faces of peds; 15 percent chert gravel; strongly acid; gradual smooth boundary.

Bt2—16 to 25 inches; yellowish brown (10YR 5/4) silty clay loam; moderate fine subangular blocky structure; friable; common fine roots; few faint clay films on faces of peds and few strong brown (7.5YR 5/8) and red (2.5YR 4/6) masses of iron accumulation; 10 percent chert gravel; very strongly acid; clear smooth boundary.

2Btx—25 to 39 inches; 30 percent grayish brown (10YR 5/2), 30 percent light brownish gray (10YR 6/2), 35 percent strong brown (7.5YR 5/6), and 5 percent red (2.5YR 4/8) very gravelly silty clay loam; weak very coarse prismatic structure parting to moderate fine subangular blocky; firm; 80 percent brittleness; few fine roots in gray streaks; common distinct clay films in the strong brown (7.5YR 5/6) material; 35 percent chert gravel; very strongly acid; clear smooth boundary.

3Bt1—39 to 45 inches; 70 percent red (10R 4/8) and 30 percent grayish brown (10YR 5/2) gravelly clay; moderate medium subangular blocky structure; firm; few fine roots in gray areas; many prominent clay films on faces of peds and few red (2.5YR 4/6) and strong brown (7.5YR 5/6) masses of iron accumulation; 30 percent chert gravel; very strongly acid; clear smooth boundary.

3Bt2—45 to 59 inches; 60 percent red (10R 4/8), 20 percent grayish brown (10YR 5/2), and 20 percent

light gray (10YR 7/2) gravelly silty clay; strong medium subangular blocky structure; firm; many prominent clay films on faces of peds and few yellowish red (5YR 5/6) masses of iron accumulation; 30 percent chert gravel; very strongly acid; clear smooth boundary.

3Bt3—59 to 80 inches; 60 percent red (10R 4/8), 20 percent grayish brown (10YR 5/2), and 20 percent light gray (10YR 7/2) gravelly clay; moderate medium subangular blocky structure; firm; many prominent clay films on faces of peds and few strong brown (7.5YR 5/6) masses of iron accumulation; 20 percent chert gravel; very strongly acid.

### Range in Characteristics

*Depth to the fragipan:* 16 to 29 inches

*A horizon:*

Content of rock fragments—0 to 15 percent gravel

*E or BE horizon (if it occurs):*

Content of rock fragments—0 to 15 percent gravel

*Bt horizon:*

Content of rock fragments—0 to 25 percent gravel or cobbles

Texture—silt loam or silty clay loam

*2Btx horizon:*

Content of rock fragments—10 to 70 percent gravel or cobbles

Texture—silty clay loam, clay loam, or silt loam

*3Bt horizon:*

Content of rock fragments—0 to 50 percent gravel or cobbles

Texture—silty clay, clay, silty clay loam, or clay loam

### Wasola Series

The Wasola series consists of very deep, moderately well drained, moderately slowly permeable soils on footslopes and terraces. These soils formed in a thin mantle of loess and slope alluvium over residuum derived from interbedded sandstone and cherty dolostone. Slopes range from 1 to 8 percent.

*Taxonomic classification:* Fine-loamy, siliceous, active, mesic Fragiatic Hapludalfs

### Typical Pedon

Wasola silt loam, 1 to 8 percent slopes; about 1,300 feet east and 2,000 feet south of the northwest corner of sec. 12, T. 24 N., R. 15 W.; USGS Caulfield



topographic quadrangle; lat. 36 degrees 31 minutes 47 seconds N. and long. 92 degrees 06 minutes 07 seconds W.; in Howell County, Missouri:

Ap—0 to 5 inches; dark grayish brown (10YR 4/2) silt loam; weak fine granular structure; friable; many fine roots; many very fine and fine interstitial pores; 10 percent subangular chert gravel; clear smooth boundary.

Bt1—5 to 11 inches; yellowish brown (10YR 5/6) gravelly silt loam; weak fine subangular blocky structure; friable; many fine roots; many very fine and fine interstitial pores; few faint clay films on faces of peds and in pores; 20 percent subangular chert gravel; clear smooth boundary.

Bt2—11 to 16 inches; yellowish brown (10YR 5/6) gravelly silty clay loam; moderate fine subangular blocky structure; friable; common fine roots; many very fine and fine interstitial pores; common distinct clay films on faces of peds and in pores and common prominent yellowish red (5YR 5/8) iron stains throughout; 20 percent subangular chert gravel; clear smooth boundary.

Bt3—16 to 25 inches; yellowish brown (10YR 5/6) very gravelly silty clay loam; few fine distinct gray (10YR 6/1) mottles; moderate fine subangular blocky structure; firm; common fine roots; common very fine and fine interstitial pores; common distinct clay films on faces of peds and in pores and few prominent red (2.5YR 4/6) and few prominent strong brown (7.5YR 5/8) iron stains throughout; 40 percent subangular chert gravel; clear smooth boundary.

2Btx—25 to 35 inches; yellowish brown (10YR 5/6) gravelly silty clay loam; common fine and medium prominent gray (10YR 6/1) mottles; moderate fine subangular blocky structure; firm; common fine roots; common very fine and fine interstitial pores; common distinct clay films on faces of peds and in pores and few light yellowish brown (10YR 6/4) clay depletions and common prominent red (2.5YR 4/6) and few prominent strong brown (7.5YR 5/8) iron stains throughout; 20 percent subangular chert gravel; clear wavy boundary.

3Bt1—35 to 50 inches; yellowish brown (10YR 5/6) clay; common fine and medium prominent gray (10YR 6/1) mottles; weak fine and medium subangular blocky structure; very firm; many prominent clay films on faces of peds and in pores and few prominent red (2.5YR 4/6) iron stains throughout; 5 percent subangular chert gravel; clear wavy boundary.

3Bt2—50 to 71 inches; yellowish brown (10YR 5/8) clay; common fine and medium prominent gray (10YR 6/1) mottles; weak fine and medium

subangular blocky structure; very firm; many distinct clay films on faces of peds and in pores; clear wavy boundary.

3Bt3—71 to 80 inches; 85 percent red (2.5YR 4/6) and 15 percent brownish yellow (10YR 6/8) clay; common fine and medium prominent gray (10YR 6/1) mottles; weak fine and medium subangular blocky structure; very firm; common distinct clay films on faces of peds and in pores; 5 percent subangular chert gravel.

### Range in Characteristics

#### *A horizon:*

Content of rock fragments—0 to 15 percent gravel

#### *Bt horizon:*

Content of rock fragments—0 to 25 percent gravel or cobbles

Texture—silt loam or silty clay loam

#### *2Btx horizon:*

Content of rock fragments—0 to 45 percent gravel or cobbles

Texture—silty clay loam, clay loam, or silt loam

#### *3Bt horizon:*

Content of rock fragments—0 to 45 percent gravel or cobbles

Texture—silty clay loam, clay, or silty clay

## Zanoni Series

The Zanoni series consists of very deep, well drained, moderately rapidly permeable soils on low stream terraces. These soils formed in loamy alluvium. Slopes range from 1 to 3 percent.

*Taxonomic classification:* Coarse-loamy, siliceous, active, mesic Ultic Hapludalfs

### Typical Pedon

Zanoni fine sandy loam, 1 to 3 percent slopes; about 2,100 feet west and 2,600 feet south of the northeast corner of sec. 17, T. 24 N., R. 12 W.; USGS Gentryville topographic quadrangle; lat. 36 degrees 45 minutes 34 seconds N. and long. 92 degrees 18 minutes 08 seconds W.; in Douglas County, Missouri:

A—0 to 7 inches; dark brown (10YR 3/3) fine sandy loam, pale brown (10YR 6/3) dry; weak fine granular structure; friable; many fine roots; 5 percent chert gravel; strongly acid; clear smooth boundary.

BA—7 to 18 inches; brown (7.5YR 4/4) sandy loam; weak medium subangular blocky structure; friable; common fine roots; 20 percent mixing of dark

brown (10YR 3/3) material from the surface layer; slightly acid; clear smooth boundary.

Bt1—18 to 28 inches; brown (7.5YR 4/4) sandy loam; weak medium subangular blocky structure; friable; common fine roots; few faint clay films on faces of peds; slightly acid; clear smooth boundary.

Bt2—28 to 41 inches; brown (7.5YR 4/4) sandy loam; weak medium subangular blocky structure; friable; few fine roots; common distinct clay films on faces of peds; 10 percent chert gravel; moderately acid; gradual smooth boundary.

Bt3—41 to 53 inches; strong brown (7.5YR 4/6) sandy loam; weak medium subangular blocky structure; friable; few fine roots; few distinct clay films on faces of peds; 10 percent chert gravel; moderately acid; gradual smooth boundary.

Bt4—53 to 64 inches; strong brown (7.5YR 4/6) gravelly sandy loam; weak medium subangular blocky structure; friable; few fine roots; few faint clay films on faces of peds; 15 percent chert gravel; moderately acid; clear wavy boundary.

C—64 to 80 inches; strong brown (7.5YR 4/6) very gravelly loamy sand; single grain; loose; few fine roots; common fine faint reddish yellow (7.5YR 6/6) masses of iron accumulation; common pale brown (10YR 6/3) clay depletions; 55 percent chert gravel; strongly acid.

#### **Range in Characteristics**

##### *A horizon:*

Content of rock fragments—0 to 5 percent gravel

##### *Bt horizon:*

Content of rock fragments—0 to 20 percent gravel or cobbles

Texture—fine sandy loam, loam, sandy clay loam, or sandy loam

##### *C horizon:*

Content of rock fragments—0 to 55 percent gravel or cobbles

Texture—loamy sand, fine sandy loam, or loam



# Formation of the Soils

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This section relates the soils in the survey area to the major factors of soil formation. It also describes the physiography, geology, and hydrology of the survey area.

## Factors of Soil Formation

Soil is the product of soil-forming processes acting on accumulated or deposited geologic material. The characteristics of the soil are determined by the type of parent material; the plant and animal life on and in the soil; the climate under which the soil-forming factors were active; topography, or lay of the land; and the length of time these forces have been active.

The parent material affects the kind of soil profile that is formed and in extreme cases determines it almost entirely. Plant and animal life are the active factors of soil formation. The climate determines the amount of water available for leaching and the amount of heat for physical and chemical changes. Together, climate and plant and animal life act on the parent material and slowly change it to a natural body that has genetically related horizons. Topography commonly modifies these other factors. Finally, time is required for changes in the parent material to result in the formation of a soil. Generally, a long time is required for the development of distinct soil horizons.

These factors of soil formation are all so closely interrelated in their effects on the soil that few generalizations can be made about the effect of any one factor unless conditions are specified for the others. Soil formation is complex, and many processes of soil development are still unknown.

## Parent Material

Parent material is the unconsolidated mass from which soil is formed. The formation or deposition of this material is the first step in the development of a soil profile. The characteristics of the parent material determine the chemical and mineralogical composition of the soil. In Ozark County, four kinds of parent material, alone or in combinations, have contributed to the formation of the soils. These four kinds of parent material are residuum, or material weathered from

bedrock; colluvium (also called slope alluvium), or gravitationally relocated material; loess, or wind-deposited material; and alluvium, or water-deposited material.

## Living Organisms

Plants and animals living on or in the soil are active in the soil-forming process. Plants furnish organic material to the soil and bring up plant nutrients from underlying layers to the surface layer. As plants die and decay, they contribute organic matter to the soil. Bacteria and fungi decompose the plant remains and help to incorporate the organic matter into the soil.

The kind of native vegetation has greatly influenced soil formation in Ozark County. The basic kinds of native vegetation were prairie grasses and forest vegetation. Additions of organic material to soils that formed under prairie grasses are largely a result of the yearly decomposition of plant materials. Plant tops decompose at the surface, and the roots decompose at various depths in the soil. As a result, soils that formed under prairie grasses have a thick, dark surface layer.

Additions of organic material to soils that formed under forest vegetation are mostly the result of leaves and twigs that decompose on the surface. These soils have a thin, dark surface layer. Many of the soils in Ozark County, however, formed under mixed grass and forest vegetation.

Insects, worms, humans, and other animals affect soil formation. Bacteria and fungi promote the decay of organic material, fix nitrogen, and improve tilth. Burrowing animals and insects loosen and mix various soil horizons.

In a relatively short time, human activities have greatly affected the processes of soil formation. The major alterations include changes in the type of vegetation, drainage of wet areas, and accelerated erosion. Row crops have replaced native grasses and many of the forested areas. Nearly all of the flood plains and much of the upland areas are now farmed. These changes have increased food production but have had an adverse effect in terms of sustained productivity. Accelerated erosion continues to reduce



the potential of many upland soils, and the loss of cropland to urban development is virtually irreversible.

## Climate

Climate has been and still is an important factor of soil formation. Geologic erosion, plant and animal life, and, in more recent times, accelerated erosion all have varied with the climate.

The glacial periods that so greatly affected the soil-forming processes were a result of climatic changes. Thousands of years of cold temperatures resulted in glaciers that moved into the area. Several soil-forming periods have occurred since the last ice sheet left northern Missouri. Geologic evidence indicates that the climate was colder and wetter than the present climate during some soil-forming periods and was warmer during others. The warmer weather and high winds resulted in severe geologic erosion, and much of the area was covered by loess.

High temperatures and adequate rainfall encourage rapid chemical and physical changes. This type of climate is conducive to the breakdown of minerals and the relocation of clay within the soil. The clay is moved downward into the soil profile, and this downward movement results in the formation of the subsoil. Nearly all of the upland soils in the county show evidence of this illuviation.

## Topography

Topography, or relief, affects soil formation through its influence on drainage, runoff, the rate of water infiltration, and geologic erosion. Topography is characterized by the length, shape, aspect, and degree of slope. It is important in determining the pattern and distribution of soils.

The amount of water entering the soil depends on slope, permeability, and the intensity of rainfall. Because runoff is rapid in steep areas, very little water passes through the soil and soil formation is slow. Geologic erosion almost keeps pace with the soil-forming processes. In gently sloping areas, runoff is slow, erosion is minimal, and most of the water passes through the soil. Leaching, the translocation of clay, and other soil-forming processes are intensified in these areas. Soils in these areas generally show maximum profile development.

Soils on steep, south-facing slopes receive more direct sunlight and are drier than similar soils on north-facing slopes. Drier conditions influence soil formation by affecting the kind of vegetation, the susceptibility to erosion, and the cycles of freezing and thawing.

## Time

The degree of profile development is dependent on the length of time that the parent material has been in place and subject to the soil-forming processes. Older soils show the effects of leaching and clay movement and have developed distinct horizons. Young soils show little profile development.

## Physiography, Geology, and Hydrology

By James C. Brown, Jr., registered geologist, State of Missouri.

*Physiography.*—Ozark County is within the White River Hills Area of the Springfield-Salem Plateaus Section, Ozark Plateau Province, Interior Highlands Division. Landscapes in the county range from steep, wooded hills and ridges with narrow stony valleys to rolling upland hills with glades and well developed flood plains and/or terraced river valleys with entrenched meanders. A small portion of an isolated remnant of the Springfield Plateau extends into the northwest corner of the county, from eastern Taney County. It is an upland area with narrow ridges, glades, and isolated pinnacles and an elevation typically above 1,400 feet. The Mark Twain National Forest has established and maintains a scenic drive through this area; the drive is known as the Gladetop Trail. Another isolated remnant of the Springfield Plateau is in the Caney Mountain State Game Refuge, approximately 5 miles north of Gainesville, Missouri. It is similar to the other remnant in geomorphic extent and character, but it has numerous cross-cutting structural trends and faults, which have probably aided in the isolation of the terrain. The remainder of the county is typically gently rolling uplands with elevations below 1,200 feet, except for a few higher isolated knobs and balds.

The majority of streams drain to the south and enter tributaries of the White River. Erosion has played a major role in the development of deeply incised, structurally controlled major stream valleys. A drainage divide bisects the county, approximately along State Highway 5. East of this area, streams and branches enter Bryant Creek and the North Fork River and are then impounded by Norfork Lake and Dam near Norfork, Arkansas. West of this area, streams and branches enter the Little North Fork River or other tributaries of the White River and are impounded by Bull Shoals Lake and Dam near Cotter, Arkansas. Streams and branches in the extreme northwest corner of the county drain westward to Beaver Creek

and then join upper Bull Shoals Lake in Taney County, near Kisse Mills, Missouri.

*Geology.*—The bedrock in the county includes cherty limestone and dolostone, minor amounts of sandstone and shale, and brecciated chert masses. The bedrock is generally overlain by residuum, an unconsolidated material produced by weathering and solution of the parent material and bedrock. The thickness of the residuum ranges from less than 1 foot to 60 feet. In places, the material includes “relict bedrock residuum,” the more insoluble remaining layers of chert and/or sandstone beds with weathered limestone or dolostone in a clay matrix. The residuum and bedrock influence the properties of the overlying modern soils.

Reconnaissance mapping by Middendorf and others (1997) indicates that the youngest identified strata are Mississippian System, Osagean Series limestones, exposed on the crests of the Gladetop Trail and Caney Mountain Refuge. The oldest identified strata are Ordovician System, Ibexian Series dolostones, exposed along the lower slopes of Bryant Creek and the North Fork White River. A major unconformity exists between the Ordovician and Mississippian strata. All of the Devonian, Silurian, and middle-upper Ordovician strata that were deposited were eroded before the Mississippian strata were deposited. Detailed bedrock geologic maps are not available for the county. Mapping in Taney County, however, has defined the bedrock, and a correlation of the materials and rocks can be applied to Ozark County. From youngest to oldest, the geologic materials in Ozark County are chert breccia (undefined), Burlington Limestone, the Reeds Spring Formation, Pierson Limestone, the Northview Formation, Compton Limestone, the Bachelor Formation, Cotter Dolomite, Jefferson City Dolomite, the Roubidoux Formation, and Gasconade Dolomite.

Chert breccia is an unassigned unit composed of angular chert fragments cemented with siliceous material. It can replace portions of the Burlington, Reeds Spring, and/or Pierson formations, and some chert fragments are derived from the weathering of these formations. Chert breccia is typically associated with structural features and occurs along the Caney Mountain Fault Zone. The large chert boulders, rubble, and debris on ridgetops in the area surrounding the Caney Mountain Refuge are a result of physical weathering of the chert breccia.

The Burlington Limestone is a light gray, coarsely crystalline, fossiliferous, cherty limestone. It is thin- to massive-bedded and has extensive solution weathering along joints and bedrock fractures. Numerous fossils are present in the chert and

crinoidal limestone. The chert is white to tan and occurs as nodular and lenticular interbeds. Thickness can exceed 100 feet, but solution has created an irregular limestone surface with pinnacles of bedrock surrounded by residuum. Residual materials from this formation commonly cover the slopes and are the source of much of the chert gravel found in the soils on the pinnacles and ridges along the Gladetop Trail.

The Reeds Spring Formation is gray to brown, finely crystalline limestone with abundant chert. It is thin- to medium-bedded with tan to gray chert interbeds, commonly anastomosing, with 4- to 6-inch-thick wavy chert beds and nodules. Chert content of the formation ranges from 40 to 70 percent and provides a sharp contrast with the overlying less cherty, fossiliferous Burlington Limestone. The formation occurs on the high ridges of the Gladetop Trail. Thickness ranges from 50 to 90 feet, but because much of this formation is deeply weathered, the limestone has been destroyed and relict bedrock residuum with a red to brown clay matrix has been created.

The Pierson Limestone is gray to olive to brown, finely or medium crystalline, cherty, fossiliferous limestone. It is thin- to thick-bedded and has gray to brown chert nodules and interbeds. The lower part of the formation contains less chert than the upper part, which is transitional with the Reeds Spring Formation. The lower part of the formation is slightly more fossiliferous than the overlying Reeds Spring Formation and has similar chert interbeds in the upper 10 feet. The contact is typically at the uppermost coarsely crystalline limestone. Thickness ranges from 30 to 50 feet along the Gladetop Trail.

The Northview Formation is composed of varying amounts of siltstone, shale, and shaley limestone. It is typically green to gray to brown, but in places it is red. The contact with the overlying Pierson Limestone is seldom observed because of steep slopes and colluvial debris from the formations listed above. Thickness generally does not exceed 5 feet, and weathering has reduced the rarely preserved outcrop exposures in roadcuts and ditchbanks along the Gladetop Trail.

The Compton Limestone is a gray, finely or medium crystalline, argillaceous limestone. It is thin-bedded and noncherty and has scattered fossils (small crinoid segments). It has a distinct crumbly and wavy edge where weathered beds are exposed. The contact with the overlying Northview Formation is seldom observed but is in sharp contrast with the underlying Bachelor Formation and Cotter Dolomite. Thickness is less than 20 feet, and exposures are limited to areas where erosion has removed most of the colluvial debris from

the moderate or gentler slopes along the Gladetop Trail.

The Bachelor Formation is a gray to green, shaley sandstone, the grains of which are poorly sorted and subrounded. Thickness is less than 1 foot, but the formation is persistent and may be preserved in small depressions and glade exposures where it occurs as a welded contact of sandstone onto the underlying Cotter Dolomite. It is an obscure and rarely observed record of the basal Mississippian encroachment of shallow seas that inundated the continent after uplift and erosion had removed several hundred feet of bedrock from the Ordovician, Silurian, and Devonian Systems. It may exist on several elevated knobs and balds scattered throughout the county and is more prevalent near the Caney Mountain Refuge and the Gladetop Trail areas.

The Cotter Dolomite consists of dolostone, sandstone, chert, and minor shale partings. It is commonly gray to tan to brown, finely crystalline, argillaceous dolostone. It is thin- to thick-bedded, laminated or burrowed, and has dark gray to green to brown irregular shale partings along bedding planes. Interbeds of algal boundstone, stromatolites, and fenestral beds are common. Some dolostones are coarsely to medium crystalline. The sand grains are quartzose, white to gray, medium grained, well sorted, and subangular to subrounded. Sand occurs as sandy dolostones, interbedded sandstone, and thick-bedded strata. Sandstone and other fragments are silicified in places, especially along fault zones and in structurally affected areas. The chert and siliceous material are white to gray to dark brown, mottled, and banded. They occur as nodules, irregular beds, brecciated masses, and interstitial fillings along solution-enlarged fractures and joints. The base of the formation is typically a laminated dolostone approximately 20 feet thick with very thin shale partings and has an overall appearance of massive character. Thickness is approximately 300 feet. Numerous exposures are on the lower slopes of the uplands and on balds, knobs, or ridges with elevation below 1,300 feet.

The Jefferson City Dolomite includes two informal members. The upper member was called the "Rockaway Conglomerate" by Cullison (1944), and the "lower" Jefferson City is the remainder of the formation, which underlies the "Rockaway Conglomerate." This upper member was further defined and mapped as a distinct unit in Taney County by Baker and Starbuck (1997). The contact with the overlying Cotter Dolomite is typically a silicified algal bed, which may contain brecciated cherts, and is included in the "Rockaway Conglomerate." It is tan to brown, finely or medium crystalline, shaley dolostone

with chert and sandstone. It is thin- to thick-bedded, laminated, burrowed or mottled, and interbedded with sandstone, brecciated chert, oolitic and sandy dolostone, and lenticular and nodular chert. Brecciated cherts are associated with paleokarst features and vary in thickness, composition, lateral continuity, and color. Sandstone, oolitic and sandy chert fragments, and intraclasts, up to 6 inches thick, are common. The sand grains are quartzose, white to tan, well sorted, fine or medium grained, subrounded, and well cemented with translucent to white chert. This member commonly forms benches on the lower slopes and ridges with a dramatic increase of chert debris in the residual materials. Where deep weathering has removed the dolostone, relict bedrock residuum with a yellow to brown clay matrix occurs. Thickness of this member ranges from 50 to 80 feet and may exceed 100 feet near structural features.

The "lower" Jefferson City consists mostly of finely crystalline dolostone, which is similar to and generally indistinguishable from that described for the Cotter Dolomite. Burrowed, mottled, rippled, and mudcracked features are common. The chert is typically nodular, white to brown, and banded or mottled and is much less abundant than in the overlying "Rockaway Conglomerate." Glades and bedrock exposures are common for this member. The thickness of this member is approximately 150 feet, and the combined total thickness of the formation is more than 200 feet.

The Roubidoux Formation is highly variable and consists of dolostone, sandstone, and chert. The dolostones range from gray to brown, are finely to coarsely crystalline, and are thin- to thick-bedded. They are typically exposed as ledges or small bluffs in the valleys, predominantly along the cutbank sides of active streams. The coarsely crystalline dolostones commonly contain large rhombic dolomite crystals when freshly broken from the outcrop. Medium crystalline dolostones are more prevalent and typically contain quartzose sand, which grades into dolomitic sandstone. The sand grains are clear to tan, fine to coarse grained, commonly frosted, and subrounded. The sandstones may be crossbedded and have ripple marks and mudcrack fillings. Intergranular cement is commonly silicic but can be dolomitic. The cherts are typically nodular and irregular and sandy and/or oolitic, and they may contain pelletal or angular fragments. They are translucent to opaque and range from white to brown to olive. Brecciated masses and locally silicified beds of chert are also present along structural features, solution-enlarged bedding planes, and bedrock fractures. The residual chert and sand particles have a significant impact on the flood plains and terrace deposits of major streams. Thickness

exceeds 200 feet. This formation is on the lower slopes and steep bluffs of downcutting streams and tributaries of the North Fork River, where it is partially inundated by impounded waters of Norfork Lake.

The Gasconade Dolomite is gray to brown, finely to coarsely crystalline, thin- to massive-bedded, cherty dolostone. It is informally divided into "lower" and "upper" units. The "upper" unit is typically massively bedded and weathers to a coarsely pitted surface. It is interbedded with minor sandstone and chert layers or stringers. Thickness of the "upper" Gasconade ranges from 60 to 90 feet. The "lower" unit is typically thin- or medium-bedded and has an increased amount of chert lenses and interbeds. A massive chert zone (cryptozoan reef) is located at the top of the unit. It is comprised of silicified, stromatolitic dolostone and has a distinctive blocky and angular appearance, due in part to vertical fractures. Thickness exceeds 200 feet, but this unit is not completely exposed in the county. The Gasconade Dolomite is exposed in the northeastern part of the county, along Bryant Creek and the North Fork River, where structural features have been intersected by the downcutting streams. Total thickness of the Gasconade Dolomite is approximately 300 feet.

*Hydrology.*—Ozark County is underlain by soluble bedrock containing numerous caverns and springs with local occurrences of sinkholes and losing streams. In general, large quantities of good-quality water are available from surface and underground sources. Streams flow through deep, narrow valleys and have steep gradients, stable banks, and beds of rock or gravel with numerous shoals. Runoff is rapid, and channel capacities are large, yet tributaries and

streams carry only a small amount of sediment at low stages and are generally classed as clear-water streams. Losing portions of streams have been identified in the uplands to the east and west of the major drainage divide near Almartha, Missouri. These include Spring Creek and tributaries west of Rockbridge, Missouri, and Turkey Creek and tributaries northeast of Hammond, Missouri (Clean Water Commission, 2000).

The major geologic formations in Ozark County are Cotter Dolomite, Jefferson City Dolomite, and the Roubidoux Formation. Because of erosion, the Mississippian strata are not extensive and are not thick enough to store and contribute significant amounts of ground water to the hydrologic regime. Water yields from the Cotter and Jefferson City formations are generally small but are sufficient for some private wells. Domestic wells are commonly drilled into the Roubidoux Formation, at a depth of 300 to 400 feet, to obtain sufficient quantities of water. If the well is within one-fourth mile of a reservoir, e.g., Norfork and Bull Shoals Lakes, additional casing and annular seal are required for the well. The casing depth must be approved before the well is drilled (Missouri Department of Natural Resources, 1996). This requirement is intended to prevent inflow from the impounded surface water. The casing typically extends a minimum of 50 feet below the bottom of the lake. Proper well casement and annular seal are necessary to prevent migration of surface contaminants and improperly cased older wells to the open well intervals. Public Supply wells are commonly drilled into and through the Gasconade Dolomite at depths of 500 to 900 feet.





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# Glossary

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**ABC soil.** A soil having an A, a B, and a C horizon.

**AC soil.** A soil having only an A and a C horizon.

Commonly, such soil formed in recent alluvium or on steep, rocky slopes.

**Aeration, soil.** The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.

**Aggregate, soil.** Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

**Alluvial fan.** The fanlike deposit of a stream where it issues from a gorge upon a plain or of a tributary stream near or at its junction with its main stream.

**Alluvium.** Material, such as sand, silt, or clay, deposited on land by streams.

**Alpha,alpha-dipyridyl.** A dye that when dissolved in 1N ammonium acetate is used to detect the presence of reduced iron (Fe II) in the soil. A positive reaction indicates a type of redoximorphic feature.

**Aquic conditions.** Current soil wetness characterized by saturation, reduction, and redoximorphic features.

**Area reclaim** (in tables). An area difficult to reclaim after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.

**Argillic horizon.** A subsoil horizon characterized by an accumulation of illuvial clay.

**Aspect.** The direction in which a slope faces.

**Association, soil.** A group of soils or miscellaneous areas geographically associated in a characteristic repeating pattern and defined and delineated as a single map unit.

**Available water capacity (available moisture capacity).** The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in

inches, in a 60-inch profile or to a limiting layer is expressed as:

Very low .....	0 to 3
Low .....	3 to 6
Moderate .....	6 to 9
High .....	9 to 12
Very high .....	more than 12

**Backslope.** The position that forms the steepest and generally linear, middle portion of a hillslope. In profile, backslopes are commonly bounded by a convex shoulder above and a concave footslope below.

**Basal area.** The area of a cross section of a tree, generally referring to the section at breast height and measured outside the bark. It is a measure of stand density, commonly expressed in square feet.

**Base saturation.** The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, and K), expressed as a percentage of the total cation-exchange capacity.

**Base slope.** A geomorphic component of hills consisting of the concave to linear (perpendicular to the contour) slope that, regardless of the lateral shape, forms an apron or wedge at the bottom of a hillside dominated by colluvium and slope-wash sediments (for example, slope alluvium).

**Bedding planes.** Fine strata, less than 5 millimeters thick, in unconsolidated alluvial, eolian, lacustrine, or marine sediment.

**Bedrock.** The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.

**Bedrock-controlled topography.** A landscape where the configuration and relief of the landforms are determined or strongly influenced by the underlying bedrock.

**Bench terrace.** A raised, level or nearly level strip of earth constructed on or nearly on a contour, supported by a barrier of rocks or similar material, and designed to make the soil suitable for tillage and to prevent accelerated erosion.



**Bisequum.** Two sequences of soil horizons, each of which consists of an illuvial horizon and the overlying eluvial horizons.

**Board foot.** A unit of measure of the wood in lumber, logs, or trees. The amount of wood in a board 1 foot wide, 1 foot long, and 1 inch thick before finishing.

**Bottom land.** The normal flood plain of a stream, subject to flooding.

**Boulders.** Rock fragments larger than 2 feet (60 centimeters) in diameter.

**Breaks.** The steep and very steep broken land at the border of an upland summit that is dissected by ravines.

**Breast height.** An average height of 4.5 feet above the ground surface; the point on a tree where diameter measurements are ordinarily taken.

**Brush management.** Use of mechanical, chemical, or biological methods to make conditions favorable for reseeding or to reduce or eliminate competition from woody vegetation and thus allow understory grasses and forbs to recover. Brush management increases forage production and thus reduces the hazard of erosion. It can improve the habitat for some species of wildlife.

**Cable yarding.** A method of moving felled trees to a nearby central area for transport to a processing facility. Most cable yarding systems involve use of a drum, a pole, and wire cables in an arrangement similar to that of a rod and reel used for fishing. To reduce friction and soil disturbance, felled trees generally are reeled in while one end is lifted or the entire log is suspended.

**Calcareous soil.** A soil containing enough calcium carbonate (commonly combined with magnesium carbonate) to effervesce visibly when treated with cold, dilute hydrochloric acid.

**Canopy.** The leafy crown of trees or shrubs. (See Crown.)

**Capillary water.** Water held as a film around soil particles and in tiny spaces between particles. Surface tension is the adhesive force that holds capillary water in the soil.

**Catena.** A sequence, or "chain," of soils on a landscape that formed in similar kinds of parent material but have different characteristics as a result of differences in relief and drainage.

**Cation.** An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.

**Cation-exchange capacity.** The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some

other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.

**Channeled.** Refers to a drainage area in which natural meandering or repeated branching and convergence of a streambed have created deeply incised cuts, either active or abandoned, in alluvial material.

**Channery soil material.** Soil material that has, by volume, 15 to 35 percent thin, flat fragments of sandstone, shale, slate, limestone, or schist as much as 6 inches (15 centimeters) along the longest axis. A single piece is called a channer.

**Chemical treatment.** Control of unwanted vegetation through the use of chemicals.

**Chert.** A hard, extremely dense or compact, dull to semivitreous, cryptocrystalline sedimentary rock consisting dominantly of interlocking crystals of quartz less than about 30 mm in diameter. Chert may contain amorphous silica (opal). It can contain impurities, such as calcite, iron oxide, or the remains of siliceous and other organisms. It has a tough, splintery to conchoidal fracture and may be white or variously colored gray, green, blue, pink, red, yellow, brown, and black. Chert occurs principally as nodular or concretionary segregations in limestones and dolostone.

**Chiseling.** Tillage with an implement having one or more soil-penetrating points that shatter or loosen hard, compacted layers to a depth below normal plow depth.

**Clay.** As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

**Clay depletions.** Low-chroma zones having a low content of iron, manganese, and clay because of the chemical reduction of iron and manganese and the removal of iron, manganese, and clay. A type of redoximorphic depletion.

**Clay film.** A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.

**Clayey soil.** Silty clay, sandy clay, or clay.

**Claypan.** A slowly permeable soil horizon that contains much more clay than the horizons above it. A claypan is commonly hard when dry and plastic or stiff when wet.

**Clearcut.** A method of forest harvesting that removes the entire stand of trees in one cutting. Reproduction is achieved artificially or by natural seeding from the adjacent stands.

**Climax plant community.** The stabilized plant

community on a particular site. The plant cover reproduces itself and does not change so long as the environment remains the same.

**Closed depression.** A low area completely surrounded by higher ground and having no natural outlet.

**Coarse textured soil.** Sand or loamy sand.

**Cobble (or cobblestone).** A rounded or partly rounded fragment of rock 3 to 10 inches (7.6 to 25 centimeters) in diameter.

**Cobbly soil material.** Material that has 15 to 35 percent, by volume, rounded or partially rounded rock fragments 3 to 10 inches (7.6 to 25 centimeters) in diameter. Very cobbly soil material has 35 to 60 percent of these rock fragments, and extremely cobbly soil material has more than 60 percent.

**Codominant trees.** Trees whose crowns form the general level of the forest canopy and that receive full light from above but comparatively little from the sides.

**COLE (coefficient of linear extensibility).** See Linear extensibility.

**Colluvium.** Soil material or rock fragments, or both, moved by creep, slide, or local wash and deposited at the base of steep slopes.

**Commercial forest.** Forestland capable of producing 20 cubic feet or more per acre per year at the culmination of the mean annual increment.

**Complex slope.** Irregular or variable slope. Planning or establishing terraces, diversions, and other water-control structures on a complex slope is difficult.

**Complex, soil.** A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.

**Concretions.** Cemented bodies with crude internal symmetry organized around a point, a line, or a plane. They typically take the form of concentric layers visible to the naked eye. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up concretions. If formed in place, concretions of iron oxide or manganese oxide are generally considered a type of redoximorphic concentration.

**Conglomerate.** A coarse grained, clastic rock composed of rounded or subangular rock fragments more than 2 millimeters in diameter. It commonly has a matrix of sand and finer textured

material. Conglomerate is the consolidated equivalent of gravel.

**Conservation cropping system.** Growing crops in combination with needed cultural and management practices. In a good conservation cropping system, the soil-improving crops and practices more than offset the effects of the soil-depleting crops and practices. Cropping systems are needed on all tilled soils. Soil-improving practices in a conservation cropping system include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.

**Conservation tillage.** A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.

**Consistence, soil.** Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the "Soil Survey Manual."

**Consolidated sandstone.** Sandstone that disperses within a few hours when fragments are placed in water. The fragments are extremely hard or very hard when dry, are not easily crushed, and cannot be textured by the usual field method.

**Consolidated shale.** Shale that disperses within a few hours when fragments are placed in water. The fragments are extremely hard or very hard when dry and are not easily crushed.

**Contour stripcropping.** Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.

**Control section.** The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.

**Corrosion.** Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.

**Cover crop.** A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.

**Crop residue management.** Returning crop residue to the soil, which helps to maintain soil structure, organic matter content, and fertility and helps to control erosion.

**Cropping system.** Growing crops according to a planned system of rotation and management practices.

**Cross-slope farming.** Deliberately conducting farming operations on sloping farmland in such a way that tillage is across the general slope.

**Crown.** The upper part of a tree or shrub, including the living branches and their foliage.

**Culmination of the mean annual increment (CMAI).**

The average annual increase per acre in the volume of a stand. Computed by dividing the total volume of the stand by its age. As the stand increases in age, the mean annual increment continues to increase until mortality begins to reduce the rate of increase. The point where the stand reaches its maximum annual rate of growth is called the culmination of the mean annual increment.

**Cutbanks cave** (in tables). The walls of excavations tend to cave in or slough.

**Deep to water** (in tables). Deep to permanent water during the dry season.

**Deferred grazing.** Postponing grazing or resting grazing land for a prescribed period.

**Dense layer** (in tables). A very firm, massive layer that has a bulk density of more than 1.8 grams per cubic centimeter. Such a layer affects the ease of digging and can affect filling and compacting.

**Depth, soil.** Generally, the thickness of the soil over bedrock. Very deep soils are more than 60 inches deep over bedrock; deep soils, 40 to 60 inches; moderately deep, 20 to 40 inches; shallow, 10 to 20 inches; and very shallow, less than 10 inches.

**Depth to bedrock** (in tables). Bedrock is too near the surface for the specified use.

**Dip slope.** A slope of the land surface, roughly determined by and approximately conforming to the dip of the underlying bedrock.

**Diversion (or diversion terrace).** A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

**Divided-slope farming.** A form of field stripcropping in which crops are grown in a systematic arrangement of two strips, or bands, across the slope to reduce the hazard of water erosion. One strip is in a close-growing crop that provides protection from erosion, and the other strip is in a crop that provides less protection from erosion. This practice is used where slopes are not long

enough to permit a full stripcropping pattern to be used.

**Dolomite (mineral).** A common rock-forming rhombohedral carbonate mineral:  $\text{CaMg}(\text{CO}_3)_2$ .

**Dolostone.** A carbonate sedimentary rock consisting chiefly (more than 50 percent by weight or by areal percentages under the microscope) of the mineral dolomite.

**Dominant trees.** Trees whose crowns form the general level of the forest canopy and that receive full light from above and from the sides.

**Drainage class** (natural). Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized—*excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained, and very poorly drained*. These classes are defined in the “Soil Survey Manual.”

**Drainage, surface.** Runoff, or surface flow of water, from an area.

**Drainageway.** An area of ground at a lower elevation than the surrounding ground and in which water collects and is drained to a closed depression or lake or to a drainageway at a lower elevation. A drainageway may or may not have distinctly incised channels at its upper reaches or throughout its course.

**Draw.** A small stream valley that generally is more open and has broader bottom land than a ravine or gulch.

**Droughty** (in tables). The soil holds an insufficient amount of water for plants during dry periods.

**Duff.** A generally firm organic layer on the surface of mineral soils. It consists of fallen plant material that is in the process of decomposition and includes everything from the litter on the surface to underlying pure humus.

**Eluviation.** The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.

**Endosaturation.** A type of saturation of the soil in which all horizons between the upper boundary of saturation and a depth of 2 meters are saturated.

**Eolian soil material.** Earthy parent material accumulated through wind action; commonly

refers to sandy material in dunes or to loess in blankets on the surface.

**Ephemeral stream.** A stream, or reach of a stream, that flows only in direct response to precipitation. It receives no long-continued supply from melting snow or other source, and its channel is above the water table at all times.

**Episaturation.** A type of saturation indicating a perched water table in a soil in which saturated layers are underlain by one or more unsaturated layers within 2 meters of the surface.

**Erodes easily** (in tables). The soil is easily eroded by water.

**Erosion.** The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

*Erosion* (geologic). Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

*Erosion* (accelerated). Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.

**Erosion pavement.** A layer of gravel or stones that remains on the surface after fine particles are removed by sheet or rill erosion.

**Escarpment.** A relatively continuous and steep slope or cliff breaking the general continuity of more gently sloping land surfaces and resulting from erosion or faulting. Synonym: scarp.

**Even aged.** Refers to a stand of trees in which only small differences in age occur between individual trees. A range of 20 years is allowed.

**Excess fines** (in tables). Excess silt and clay in the soil. The soil does not provide a source of gravel or sand for construction purposes.

**Fallow.** Cropland left idle in order to restore productivity through accumulation of moisture. Summer fallow is common in regions of limited rainfall where cereal grain is grown. The soil is tilled for at least one growing season for weed control and decomposition of plant residue.

**Fast intake** (in tables). The rapid movement of water into the soil.

**Fertility, soil.** The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

**Field moisture capacity.** The moisture content of a soil, expressed as a percentage of the oven-dry

weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity*, *normal moisture capacity*, or *capillary capacity*.

**Fill slope.** A sloping surface consisting of excavated soil material from a road cut. It commonly is on the downhill side of the road.

**Fine textured soil.** Sandy clay, silty clay, or clay.

**Firebreak.** An area cleared of flammable material to stop or help control creeping or running fires. It also serves as a line from which to work and to facilitate the movement of firefighters and equipment. Designated roads also serve as firebreaks.

**First bottom.** The normal flood plain of a stream, subject to frequent or occasional flooding.

**Flaggy soil material.** Material that has, by volume, 15 to 35 percent flagstones. Very flaggy soil material has 35 to 60 percent flagstones, and extremely flaggy soil material has more than 60 percent flagstones.

**Flagstone.** A thin fragment of sandstone, limestone, slate, shale, or (rarely) schist 6 to 15 inches (15 to 38 centimeters) long.

**Flood plain.** A nearly level alluvial plain that borders a stream and is subject to flooding unless protected artificially.

**Flood-plain step.** An essentially flat alluvial surface within a valley that is frequently covered by floodwater from the present stream; any approximately horizontal surface frequently modified by scour and/or deposition. May occur individually or as a series of steps.

**Fluvial.** Of or pertaining to rivers; produced by river action, as a fluvial plain.

**Footslope.** The position that forms the inner, gently inclined surface at the base of a hillslope. In profile, footslopes are commonly concave. A footslope is a transition zone between upslope sites of erosion and transport (shoulders and backslopes) and downslope sites of deposition (toeslopes).

**Forb.** Any herbaceous plant not a grass or a sedge.

**Forest cover.** All trees and other woody plants (underbrush) covering the ground in a forest.

**Forest type.** A stand of trees similar in composition and development because of given physical and biological factors by which it may be differentiated from other stands.

**Fragipan.** A loamy, brittle subsurface horizon low in porosity and content of organic matter and low or moderate in clay but high in silt or very fine sand. A fragipan appears cemented and restricts roots.



When dry, it is hard or very hard and has a higher bulk density than the horizon or horizons above. When moist, it tends to rupture suddenly under pressure rather than to deform slowly.

**Genesis, soil.** The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.

**Gleyed soil.** Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.

**Graded stripcropping.** Growing crops in strips that grade toward a protected waterway.

**Grassed waterway.** A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.

**Gravel.** Rounded or angular fragments of rock as much as 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.

**Gravelly soil material.** Material that has 15 to 35 percent, by volume, rounded or angular rock fragments, not prominently flattened, as much as 3 inches (7.6 centimeters) in diameter.

**Green manure crop** (agronomy). A soil-improving crop grown to be plowed under in an early stage of maturity or soon after maturity.

**Ground water.** Water filling all the unblocked pores of the material below the water table.

**Gully.** A miniature valley with steep sides cut by running water and through which water ordinarily runs only after rainfall. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.

**Hard bedrock.** Bedrock that cannot be excavated except by blasting or by the use of special equipment that is not commonly used in construction.

**Hard to pack** (in tables). Difficult to compact using regular earthwork construction equipment.

**Hardpan.** A hardened or cemented soil horizon, or layer. The soil material is sandy, loamy, or clayey and is cemented by iron oxide, silica, calcium carbonate, or other substance.

**Head out.** To form a flower head.

**Head slope.** A geomorphic component of hills consisting of a laterally concave area of a hillside, especially at the head of a drainageway. The overland waterflow is converging.

**Heavy metal.** Inorganic substances that are solid at ordinary temperatures and are not soluble in water. They form oxides and hydroxides that are basic. Examples are copper, iron, cadmium, zinc, manganese, lead, and arsenic.

**Highly erodible** (in tables). The soil has a wind erodibility index greater than 8 and is very susceptible to erosion by water.

**High-residue crops.** Such crops as small grain and corn used for grain. If properly managed, residue from these crops can be used to control erosion until the next crop in the rotation is established. These crops return large amounts of organic matter to the soil.

**Hill.** A natural elevation of the land surface, rising as much as 1,000 feet above surrounding lowlands, commonly of limited summit area and having a well defined outline; hillsides generally have slopes of more than 15 percent. The distinction between a hill and a mountain is arbitrary and is dependent on local usage.

**Horizon, soil.** A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the "Soil Survey Manual." The major horizons of mineral soil are as follows:

*O horizon.*—An organic layer of fresh and decaying plant residue.

*A horizon.*—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

*E horizon.*—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

*B horizon.*—The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.

*C horizon.*—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the

properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

*Cr horizon.*—Soft, consolidated bedrock beneath the soil.

*R layer.*—Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it can be directly below an A or a B horizon.

**Humus.** The well decomposed, more or less stable part of the organic matter in mineral soils.

**Hydrologic soil groups.** Refers to soils grouped according to their runoff potential. The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties are depth to a seasonal high water table, the infiltration rate and permeability after prolonged wetting, and depth to a very slowly permeable layer. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff.

**Illuviation.** The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

**Impervious soil.** A soil through which water, air, or roots penetrate slowly or not at all. No soil is absolutely impervious to air and water all the time.

**Infiltration.** The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

**Infiltration capacity.** The maximum rate at which water can infiltrate into a soil under a given set of conditions.

**Infiltration rate.** The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

**Infrequent flooding** (in tables). Flooding occurs at an interval that limits riparian plant species.

**Intake rate.** The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a constant but is a variable depending on the net

irrigation application. The rate of water intake, in inches per hour, is expressed as follows:

Less than 0.2 .....	very low
0.2 to 0.4 .....	low
0.4 to 0.75 .....	moderately low
0.75 to 1.25 .....	moderate
1.25 to 1.75 .....	moderately high
1.75 to 2.5 .....	high
More than 2.5 .....	very high

**Interfluv.** An elevated area between two drainageways that sheds water to those drainageways.

**Intermittent stream.** A stream, or reach of a stream, that flows for prolonged periods only when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

**Iron depletions.** Low-chroma zones having a low content of iron and manganese oxide because of chemical reduction and removal, but having a clay content similar to that of the adjacent matrix. A type of redoximorphic depletion.

**Irrigation.** Application of water to soils to assist in production of crops. Methods of irrigation are:  
*Basin.*—Water is applied rapidly to nearly level plains surrounded by levees or dikes.  
*Border.*—Water is applied at the upper end of a strip in which the lateral flow of water is controlled by small earth ridges called border dikes, or borders.

*Controlled flooding.*—Water is released at intervals from closely spaced field ditches and distributed uniformly over the field.

*Corrugation.*—Water is applied to small, closely spaced furrows or ditches in fields of close-growing crops or in orchards so that it flows in only one direction.

*Drip (or trickle).*—Water is applied slowly and under low pressure to the surface of the soil or into the soil through such applicators as emitters, porous tubing, or perforated pipe.

*Furrow.*—Water is applied in small ditches made by cultivation implements. Furrows are used for tree and row crops.

*Sprinkler.*—Water is sprayed over the soil surface through pipes or nozzles from a pressure system.

*Subirrigation.*—Water is applied in open ditches or tile lines until the water table is raised enough to wet the soil.

*Wild flooding.*—Water, released at high points, is allowed to flow onto an area without controlled distribution.

**Karst** (topography). The relief of an area underlain by limestone that dissolves in differing degrees, thus forming numerous depressions or small basins.

**Knoll.** A small, low, rounded hill rising above adjacent landforms.

**$K_{sat}$ .** Saturated hydraulic conductivity. (See Permeability.)

**Landslide.** The rapid downhill movement of a mass of soil and loose rock, generally when wet or saturated. The speed and distance of movement, as well as the amount of soil and rock material, vary greatly.

**Large stones** (in tables). Rock fragments 3 inches (7.6 centimeters) or more across. Large stones adversely affect the specified use of the soil.

**Leaching.** The removal of soluble material from soil or other material by percolating water.

**Limestone.** A sedimentary rock consisting chiefly (more than 50 percent) of calcium carbonate, primarily in the form of calcite. Limestones are usually formed by a combination of organic and inorganic processes and include chemical and clastic (soluble and insoluble) constituents; many contain fossils.

**Linear extensibility.** Refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. Linear extensibility is used to determine the shrink-swell potential of soils. It is an expression of the volume change between the water content of the clod at  $1/3$ - or  $1/10$ -bar tension (33kPa or 10kPa tension) and oven dryness. Volume change is influenced by the amount and type of clay minerals in the soil. The volume change is the percent change for the whole soil. If it is expressed as a fraction, the resulting value is COLE, coefficient of linear extensibility.

**Liquid limit.** The moisture content at which the soil passes from a plastic to a liquid state.

**Loam.** Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

**Loamy soil.** Coarse sandy loam, sandy loam, fine sandy loam, very fine sandy loam, loam, silt loam, silt, clay loam, sandy clay loam, or silty clay loam.

**Loess.** Fine grained material, dominantly of silt-sized particles, deposited by wind.

**Low strength.** The soil is not strong enough to support loads.

**Low-residue crops.** Such crops as corn used for silage, peas, beans, and potatoes. Residue from these crops is not adequate to control erosion until the next crop in the rotation is established. These crops return little organic matter to the soil.

**Masses.** Concentrations of substances in the soil matrix that do not have a clearly defined boundary with the surrounding soil material and cannot be removed as a discrete unit. Common compounds making up masses are calcium carbonate, gypsum or other soluble salts, iron oxide, and manganese oxide. Masses consisting of iron oxide or manganese oxide generally are considered a type of redoximorphic concentration.

**Mean annual increment (MAI).** The average annual increase in volume of a tree during the entire life of the tree.

**Mechanical treatment.** Use of mechanical equipment for seeding, brush management, and other management practices.

**Medium textured soil.** Very fine sandy loam, loam, silt loam, or silt.

**Merchantable trees.** Trees that are of sufficient size to be economically processed into wood products.

**Metamorphic rock.** Rock of any origin altered in mineralogical composition, chemical composition, or structure by heat, pressure, and movement. Nearly all such rocks are crystalline.

**Micro-high.** An area that is 2 to 12 inches higher than the adjacent micro-low.

**Micro-low.** An area that is 2 to 12 inches lower than the adjacent micro-high.

**Mineral soil.** Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.

**Minimum tillage.** Only the tillage essential to crop production and prevention of soil damage.

**Miscellaneous area.** An area that has little or no natural soil and supports little or no vegetation.

**Moderately coarse textured soil.** Coarse sandy loam, sandy loam, or fine sandy loam.

**Moderately fine textured soil.** Clay loam, sandy clay loam, or silty clay loam.

**Mollic epipedon.** A thick, dark, humus-rich surface horizon (or horizons) that has high base saturation and pedogenic soil structure. It may include the upper part of the subsoil.

**Morphology, soil.** The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

**Mottling, soil.** Irregular spots of different colors that vary in number and size. Descriptive terms are as follows: abundance—*few*, *common*, and *many*; size—*fine*, *medium*, and *coarse*; and contrast—*faint*, *distinct*, and *prominent*. The size measurements are of the diameter along the

greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium*, from 5 to 15 millimeters (about 0.2 to 0.6 inch); and *coarse*, more than 15 millimeters (about 0.6 inch).

**Mudstone.** Sedimentary rock formed by induration of silt and clay in approximately equal amounts.

**Munsell notation.** A designation of color by degrees of three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color with hue of 10YR, value of 6, and chroma of 4.

**Neutral soil.** A soil having a pH value of 6.6 to 7.3. (See Reaction, soil.)

**Nodules.** Cemented bodies lacking visible internal structure. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up nodules. If formed in place, nodules of iron oxide or manganese oxide are considered types of redoximorphic concentrations.

**Nose slope.** A geomorphic component of hills consisting of the projecting end (laterally convex area) of a hillside. The overland waterflow is predominantly divergent.

**Nutrient, plant.** Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.

**Organic matter.** Plant and animal residue in the soil in various stages of decomposition. The content of organic matter in the surface layer is described as follows:

Very low .....	less than 0.5 percent
Low .....	0.5 to 1.0 percent
Moderately low .....	1.0 to 2.0 percent
Moderate .....	2.0 to 4.0 percent
High .....	4.0 to 8.0 percent
Very high .....	more than 8.0 percent

**Overstory.** The trees in a forest that form the upper crown cover.

**Oxbow.** The horseshoe-shaped channel of a former meander, remaining after the stream formed a cutoff across a narrow meander neck.

**Paleoterrace.** An erosional remnant of a terrace that retains the surface form and alluvial deposits of its origin but was not emplaced by, and commonly does not grade to, a present-day stream or drainage network.

**Pan.** A compact, dense layer in a soil that impedes the movement of water and the growth of roots. For

example, *hardpan*, *fragipan*, *claypan*, *plowpan*, and *traffic pan*.

**Parent material.** The unconsolidated organic and mineral material in which soil forms.

**Ped.** An individual natural soil aggregate, such as a granule, a prism, or a block.

**Pedon.** The smallest volume that can be called “a soil.” A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

**Percolation.** The movement of water through the soil.

**Percs slowly** (in tables). The slow movement of water through the soil adversely affects the specified use.

**Permeability.** The quality of the soil that enables water or air to move downward through the profile. The rate at which a saturated soil transmits water is accepted as a measure of this quality. In soil physics, the rate is referred to as “saturated hydraulic conductivity,” which is defined in the “Soil Survey Manual.” In line with conventional usage in the engineering profession and with traditional usage in published soil surveys, this rate of flow continues to be expressed as “permeability.” Terms describing permeability, measured in inches per hour, are as follows:

Impermeable .....	less than 0.0015 inch
Very slow .....	0.0015 to 0.06 inch
Slow .....	0.06 to 0.2 inch
Moderately slow .....	0.2 to 0.6 inch
Moderate .....	0.6 inch to 2.0 inches
Moderately rapid .....	2.0 to 6.0 inches
Rapid .....	6.0 to 20 inches
Very rapid .....	more than 20 inches

**pH value.** A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

**Phase, soil.** A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.

**Piping** (in tables). Formation of subsurface tunnels or pipelike cavities by water moving through the soil.

**Plastic limit.** The moisture content at which a soil changes from semisolid to plastic.

**Plasticity index.** The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

**Plateau.** An extensive upland mass with relatively flat summit area that is considerably elevated (more than 100 meters) above adjacent lowlands and



separated from them on one or more sides by escarpments.

**Plowpan.** A compacted layer formed in the soil directly below the plowed layer.

**Ponding.** Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

**Poor filter** (in tables). Because of rapid or very rapid permeability, the soil may not adequately filter effluent from a waste disposal system.

**Poorly graded.** Refers to a coarse grained soil or soil material consisting mainly of particles of nearly the same size. Because there is little difference in size of the particles, density can be increased only slightly by compaction.

**Potential native plant community.** See Climax plant community.

**Potential rooting depth (effective rooting depth).**

Depth to which roots could penetrate if the content of moisture in the soil were adequate. The soil has no properties restricting the penetration of roots to this depth.

**Prescribed burning.** Deliberately burning an area for specific management purposes, under the appropriate conditions of weather and soil moisture and at the proper time of day.

**Productivity, soil.** The capability of a soil for producing a specified plant or sequence of plants under specific management.

**Profile, soil.** A vertical section of the soil extending through all its horizons and into the parent material.

**Proper grazing use.** Grazing at an intensity that maintains enough cover to protect the soil and maintain or improve the quantity and quality of the desirable vegetation. This practice increases the vigor and reproduction capacity of the key plants and promotes the accumulation of litter and mulch necessary to conserve soil and water.

**Quartzite, metamorphic.** Rock consisting mainly of quartz that formed through recrystallization of quartz-rich sandstone or chert.

**Quartzite, sedimentary.** Very hard but unmetamorphosed sandstone consisting chiefly of quartz grains.

**Reaction, soil.** A measure of acidity or alkalinity of a soil, expressed in pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid .....	less than 3.5
Extremely acid .....	3.5 to 4.4
Very strongly acid .....	4.5 to 5.0
Strongly acid .....	5.1 to 5.5
Moderately acid .....	5.6 to 6.0
Slightly acid .....	6.1 to 6.5
Neutral .....	6.6 to 7.3
Slightly alkaline .....	7.4 to 7.8
Moderately alkaline .....	7.9 to 8.4
Strongly alkaline .....	8.5 to 9.0
Very strongly alkaline .....	9.1 and higher

**Redoximorphic concentrations.** Nodules, concretions, soft masses, pore linings, and other features resulting from the accumulation of iron or manganese oxide. An indication of chemical reduction and oxidation resulting from saturation.

**Redoximorphic depletions.** Low-chroma zones from which iron and manganese oxide or a combination of iron and manganese oxide and clay has been removed. These zones are indications of the chemical reduction of iron resulting from saturation.

**Redoximorphic features.** Redoximorphic concentrations, redoximorphic depletions, reduced matrices, a positive reaction to alpha,alpha-dipyridyl, and other features indicating the chemical reduction and oxidation of iron and manganese compounds resulting from saturation.

**Reduced matrix.** A soil matrix that has low chroma in situ because of chemically reduced iron (Fe II). The chemical reduction results from nearly continuous wetness. The matrix undergoes a change in hue or chroma within 30 minutes after exposure to air as the iron is oxidized (Fe III). A type of redoximorphic feature.

**Regolith.** The unconsolidated mantle of weathered rock and soil material on the earth's surface; the loose earth material above the solid rock.

**Relict stream terrace.** One of a series of platforms in or adjacent to a stream valley that formed prior to the current stream system.

**Relief.** The elevations or inequalities of a land surface, considered collectively.

**Residuum (residual soil material).** Unconsolidated, weathered or partly weathered mineral material that accumulated as consolidated rock disintegrated in place.

**Rill.** A steep-sided channel resulting from accelerated erosion. A rill generally is a few inches deep and not wide enough to be an obstacle to farm machinery.

**Riser.** The relatively short, steeply sloping area below a terrace tread that grades to a lower terrace tread or base level.

**Riverwash.** Unstable areas of sandy, silty, clayey, or gravelly sediments. These areas are flooded, washed, and reworked by rivers so frequently that they support little or no vegetation.

**Road cut.** A sloping surface produced by mechanical means during road construction. It is commonly on the uphill side of the road.

**Rock fragments.** Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

**Rock outcrop.** Exposures of bare bedrock other than lava flows and rock-lined pits.

**Root zone.** The part of the soil that can be penetrated by plant roots.

**Runoff.** The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.

**Sand.** As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

**Sandstone.** Sedimentary rock containing dominantly sand-sized particles.

**Sandy soil.** Sand or loamy sand.

**Saturation.** Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.

**Sawlogs.** Logs of suitable size and quality for the production of lumber.

**Scarification.** The act of abrading, scratching, loosening, crushing, or modifying the surface to increase water absorption or to provide a more tillable soil.

**Seasonal wetness** (in tables). The soil may be wet during the period of desired use. The wetness usually occurs during the winter and early spring.

**Seasonally ponded** (in tables). Standing water on soils in closed depressions that is removed only by percolation or evapotranspiration. Generally occurs during the winter and early spring.

**Second bottom.** The first terrace above the normal flood plain (or first bottom) of a river.

**Sedimentary plain.** An extensive nearly level to gently rolling or moderately sloping area that is underlain by sedimentary bedrock and that has slopes of 0 to 8 percent.

**Sedimentary rock.** Rock made up of particles deposited from suspension in water. The chief kinds of sedimentary rock are conglomerate, formed from gravel; sandstone, formed from sand; shale, formed from clay; and limestone, formed from soft masses of calcium carbonate. There are many intermediate types. Some wind-deposited sand is consolidated into sandstone.

**Sedimentary uplands.** Land areas of bedrock formed from water- or wind-deposited sediments. These areas are higher on the landscape than the flood plain.

**Seepage** (in tables). The movement of water through the soil. Seepage adversely affects the specified use.

**Semiconsolidated sedimentary beds.** Soft geologic sediments that disperse when fragments are placed in water. The fragments are hard or very hard when dry. Determining the texture by the usual field method is difficult.

**Sequum.** A sequence consisting of an illuvial horizon and the overlying eluvial horizon. (See Eluviation.)

**Series, soil.** A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

**Shale.** Sedimentary rock formed by the hardening of a clay deposit.

**Sheet erosion.** The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

**Shoulder.** The position that forms the uppermost inclined surface near the top of a hillslope. It is a transition from backslope to summit. The surface is dominantly convex in profile and erosional in origin.

**Shrink-swell** (in tables). The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.

**Side slope.** A geomorphic component of hills consisting of a laterally planar area of a hillside. The overland waterflow is predominantly parallel.

**Silica.** A combination of silicon and oxygen. The mineral form is called quartz.

**Silt.** As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

**Siltstone.** Sedimentary rock made up of dominantly silt-sized particles.

**Similar soils.** Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.

**Sinkhole.** A depression in the landscape where limestone has been dissolved.

**Site class.** A grouping of site indexes into five to seven production capability levels. Each level can be represented by a site curve.

**Site curve (50-year).** A set of related curves on a graph that shows the average height of dominant or dominant and codominant trees for a range of ages on soils that differ in productivity. Each level is represented by a curve. The basis of the curves is the height of dominant or dominant and codominant trees that are 50 years old or are 50 years old at breast height.

**Site curve (100-year).** A set of related curves on a graph that shows the average height of dominant or dominant and codominant trees for a range of ages on soils that differ in productivity. Each level is represented by a curve. The basis of the curves is the height of dominant or dominant and codominant trees that are 100 years old or are 100 years old at breast height.

**Site index.** A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75.

**Skid trails.** Pathways along which logs are dragged to a common site for loading onto a logging truck.

**Slash.** The branches, treetops, reject logs, and broken or uprooted trees left on the ground after logging.

**Slippage** (in tables). Soil mass susceptible to movement downslope when loaded, excavated, or wet.

**Slope.** The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance.

**Slope** (in tables). Slope is great enough that special practices are required to ensure satisfactory performance of the soil for a specific use.

**Slope alluvium.** Sediment gradually transported on slopes of mountains or hills primarily by alluvial processes and characterized by particle sorting. In a profile sequence, sediments may be distinguished by differences in size and/or specific

gravity of rock fragments and may be separated by stone lines. Sorting of rounded or subrounded pebbles or cobbles and burnished peds distinguish these materials from unsorted colluvial deposits.

**Slope/erodibility** (in tables). A combination of slope and susceptibility to water erosion may restrict the specified use.

**Slow intake** (in tables). The slow movement of water into the soil.

**Small stones** (in tables). Rock fragments less than 3 inches (7.6 centimeters) in diameter. Small stones adversely affect the specified use of the soil.

**Soft bedrock.** Bedrock that can be excavated with trenching machines, backhoes, small rippers, and other equipment commonly used in construction.

**Soil.** A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief and by the passage of time.

**Soil reaction** (in tables). The soil reaction is either too high or too low for the specified use.

**Soil separates.** Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes, in millimeters, of separates recognized in the United States are as follows:

Very coarse sand .....	2.0 to 1.0
Coarse sand .....	1.0 to 0.5
Medium sand .....	0.5 to 0.25
Fine sand .....	0.25 to 0.10
Very fine sand .....	0.10 to 0.05
Silt .....	0.05 to 0.002
Clay .....	less than 0.002

**Solum.** The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the material below the solum. The living roots and plant and animal activities are largely confined to the solum.

**Stickiness (surface)** (in tables). The soil is slippery and sticky when wet and slow to dry.

**Stone line.** A concentration of rock fragments in a soil. Generally, it is indicative of an old weathered surface. In a cross section, the line may be one fragment or more thick. It generally overlies material that weathered in place and is overlain by recent sediment of variable thickness.

**Stones.** Rock fragments 10 to 24 inches (25 to 60

centimeters) in diameter if rounded or 15 to 24 inches (38 to 60 centimeters) in length if flat.

**Stony.** Refers to a soil containing stones in numbers that interfere with or prevent tillage.

**Strath terrace.** A surface cut formed by the erosion of hard or semiconsolidated bedrock and thinly mantled with stream deposits.

**Stream channel.** The hollow bed where a natural stream of surface water flows or may flow; the deepest or central part of the bed, formed by the main current and covered more or less continuously by water.

**Stream terrace.** One of a series of platforms in a stream valley, flanking and more or less parallel to the stream channel. It originally formed near the level of the stream and is the dissected remnants of an abandoned flood plain, streambed, or valley floor produced during a former stage of erosion or deposition.

**Stripcropping.** Growing crops in a systematic arrangement of strips or bands that provide vegetative barriers to wind erosion and water erosion.

**Structure, soil.** The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are either *single grain* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

**Stubble mulch.** Stubble or other crop residue left on the soil or partly worked into the soil. It protects the soil from wind erosion and water erosion after harvest, during preparation of a seedbed for the next crop, and during the early growing period of the new crop.

**Subsoil.** Technically, the B horizon; roughly, the part of the solum below plow depth.

**Subsoiling.** Tilling a soil below normal plow depth, ordinarily to shatter a hardpan or claypan.

**Substratum.** The part of the soil below the solum.

**Subsurface layer.** Any surface soil horizon (A, E, AB, or EB) below the surface layer.

**Summit.** The topographically highest position of a hillslope. It has a nearly level (planar or only slightly convex) surface.

**Surface layer.** The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters). Frequently designated as the “plow layer,” or the “Ap horizon.”

**Surface soil.** The A, E, AB, and EB horizons, considered collectively. It includes all subdivisions of these horizons.

**Tailwater.** The water directly downstream from a structure.

**Terrace.** An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field generally is built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.

**Terrace (geologic).** An old alluvial plain, ordinarily flat or undulating, bordering a river, a lake, or the sea.

**Texture, soil.** The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand*, *loamy sand*, *sandy loam*, *loam*, *silt loam*, *silt*, *sandy clay loam*, *clay loam*, *silty clay loam*, *sandy clay*, *silty clay*, and *clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying “coarse,” “fine,” or “very fine.” The abbreviations (see table 18) are *C*—*clay*, *CL*—*clay loam*, *COS*—*coarse sand*, *COSL*—*coarse sandy loam*, *FS*—*fine sand*, *FSL*—*fine sandy loam*, *L*—*loam*, *LCOS*—*loamy coarse sand*, *LFS*—*loamy fine sand*, *LS*—*loamy sand*, *LVFS*—*loamy very fine sand*, *S*—*sand*, *SC*—*sandy clay*, *SCL*—*sandy clay loam*, *SI*—*silt*, *SIC*—*silty clay*, *SICL*—*silty clay loam*, *SIL*—*silt loam*, *SL*—*sandy loam*, *VFS*—*very fine sand*, and *VFSL*—*very fine sandy loam*.

Terms used in lieu of texture descriptions are *BR*—*bedrock*; *MPM*—*moderately decomposed plant material*; and *VAR*—*variable*. The texture modifiers that may apply to textural classes are *BY*—*bouldery*, *BYV*—*very bouldery*, *BYX*—*extremely bouldery*, *CB*—*cobbly*, *CBV*—*very cobbly*, *CBX*—*extremely cobbly*, *CN*—*channery*, *CNV*—*very channery*, *CNX*—*extremely channery*, *FL*—*flaggy*, *FLV*—*very flaggy*, *FLX*—*extremely flaggy*, *GR*—*gravelly*, *GRV*—*very gravelly*, *GRX*—*extremely gravelly*, *SR*—*stratified*, *ST*—*stony*, *STV*—*very stony*, and *STX*—*extremely stony*.

**Thin layer** (in tables). Otherwise suitable soil material that is too thin for the specified use.

**Tilth, soil.** The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

**Toeslope.** The position that forms the gently inclined surface at the base of a hillslope. Toeslopes in profile are commonly gentle and linear and are



constructional surfaces forming the lower part of a hillslope continuum that grades to valley or closed-depression floors.

**Too clayey** (in tables). The soil is slippery and sticky when wet and slow to dry.

**Too sandy** (in tables). The soil is soft and loose, droughty, and low in fertility or is too fine to be used as gravel.

**Topsoil.** The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

**Trace elements.** Chemical elements, for example, zinc, cobalt, manganese, copper, and iron, in soils in extremely small amounts. They are essential to plant growth.

**Trafficability.** The degree to which a soil is capable of supporting vehicular traffic across a wide range in soil moisture conditions.

**Tread.** The relatively flat surface of a terrace that was cut or built by stream or wave action.

**Upland.** Land at a higher elevation, in general, than the alluvial plain or stream terrace; land above the lowlands along streams.

**Valley.** An elongated depressional area primarily developed by stream action.

**Valley fill.** In glaciated regions, material deposited in stream valleys by glacial meltwater. In

nonglaciated regions, alluvium deposited by heavily loaded streams.

**Variation.** Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.

**Water bars.** Smooth, shallow ditches or depressional areas that are excavated at an angle across a sloping road. They are used to reduce the downward velocity of water and divert it off and away from the road surface. Water bars can easily be driven over if constructed properly.

**Weathering.** All physical and chemical changes produced in rocks or other deposits at or near the earth's surface by atmospheric agents. These changes result in disintegration and decomposition of the material.

**Well graded.** Refers to soil material consisting of coarse grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.

**Wilting point (or permanent wilting point).** The moisture content of soil, on an oven-dry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

**Windthrow.** The uprooting and tipping over of trees by the wind.

# Tables

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Table 1.--Temperature and Precipitation  
(Recorded in the period 1961-90 at Wasola, Missouri)

	Temperature						Precipitation				
Month				2 years in 10 will have--				2 years in 10 will have--			
	Average daily maximum	Average daily minimum	Average	Maximum temperature higher than--	Minimum temperature lower than--	Average number of growing degree days*	Average	Less than--	More than--	Average number of days with 0.10 inch or more	Average snowfall
	°F	°F	°F	°F	°F	Units	In	In	In		In
January----	43.9	21.8	32.9	72	-4	10	1.76	0.57	2.73	3	2.0
February---	48.9	26.1	37.5	76	2	19	2.34	1.00	3.48	3	2.4
March-----	59.4	34.9	47.2	83	12	99	3.80	1.87	5.47	6	1.5
April-----	70.6	45.2	57.9	88	26	260	3.98	2.00	5.70	6	.4
May-----	77.7	53.5	65.6	90	33	485	4.54	2.66	6.23	6	.0
June-----	85.0	61.9	73.4	97	46	701	3.29	2.17	4.32	5	.0
July-----	89.8	66.2	78.0	101	52	856	3.08	1.90	4.35	4	.0
August-----	88.0	64.3	76.2	101	51	801	3.46	1.36	5.21	5	.0
September--	80.4	57.9	69.1	96	39	573	4.06	1.45	6.22	5	.0
October----	71.4	46.4	58.9	89	28	297	3.29	1.01	5.37	4	.0
November---	58.2	36.6	47.4	79	12	88	3.79	1.77	5.78	5	.8
December---	46.9	25.7	36.3	72	-3	15	3.09	1.29	4.62	4	1.3
Yearly:											
Average---	68.4	45.0	56.7	---	---	---	---	---	---	---	---
Extreme---	106	-22	---	104	-7	---	---	---	---	---	---
Total-----	---	---	---	---	---	4,205	40.47	22.12	50.94	56	8.4

\* A growing degree day is a unit of heat available for plant growth. It can be calculated by adding the maximum and minimum daily temperatures, dividing the sum by 2, and subtracting the temperature below which growth is minimal for the principal crops in the area (50 degrees F).

Table 2.--Freeze Dates in Spring and Fall  
(Recorded in the period 1961-90 at Wasola, Missouri)

Probability	Temperature		
	24 °F or lower	28 °F or lower	32 °F or lower
Last freezing temperature in spring:			
1 year in 10 later than--	Apr. 5	Apr. 10	Apr. 25
2 years in 10 later than--	Mar. 30	Apr. 6	Apr. 20
5 years in 10 later than--	Mar. 18	Mar. 30	Apr. 10
First freezing temperature in fall:			
1 year in 10 earlier than--	Oct. 31	Oct. 25	Oct. 6
2 years in 10 earlier than--	Nov. 5	Oct. 29	Oct. 13
5 years in 10 earlier than--	Nov. 14	Nov. 6	Oct. 25

Table 3.--Growing Season  
(Recorded in the period 1961-90 at Wasola,  
Missouri)

Probability	Daily minimum temperature during growing season		
	Higher than 24 °F	Higher than 28 °F	Higher than 32 °F
	Days	Days	Days
9 years in 10	218	210	178
8 years in 10	226	214	186
5 years in 10	242	222	201
2 years in 10	258	230	217
1 year in 10	266	234	224



Table 4.--Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
70026	Tonti silt loam, 1 to 3 percent slopes-----	3,925	0.8
73000	Pomme silt loam, 3 to 8 percent slopes-----	4,395	0.9
73015	Viraton silt loam, 1 to 3 percent slopes-----	1,575	0.3
73017	Bendavis-Poynor complex, 15 to 50 percent slopes, rocky, very stony-----	17,395	3.6
73019	Poynor very gravelly silt loam, 1 to 8 percent slopes-----	17,665	3.7
73023	Mano-Ocie complex, 1 to 8 percent slopes-----	13,830	2.9
73024	Mano-Ocie complex, 8 to 15 percent slopes, stony-----	8,635	1.8
73069	Tick extremely gravelly silt loam, 15 to 50 percent slopes, very stony---	310	*
73073	Scholten-Poynor complex, 8 to 15 percent slopes-----	745	0.2
73076	Mano-Ocie complex, 15 to 35 percent slopes, stony-----	20,345	4.2
73198	Gressy-Viraton complex, 3 to 8 percent slopes-----	4,855	1.0
73199	Moko-Rock outcrop complex, 3 to 15 percent slopes, very flaggy-----	5,395	1.1
73220	Poynor extremely gravelly silt loam, 8 to 15 percent slopes-----	14,920	3.1
73221	Poynor very gravelly silt loam, karst, 3 to 35 percent slopes, stony-----	165	*
73222	Splitlimb silt loam, 0 to 3 percent slopes, frequently ponded-----	47	*
73223	Coulstone-Bender complex, 15 to 50 percent slopes, very stony-----	26,160	5.4
73224	Moko-Rock outcrop complex, 15 to 35 percent slopes, extremely flaggy-----	11,475	2.4
73225	Ocie-Gatewood complex, 3 to 8 percent slopes-----	1,145	0.2
73226	Ocie-Gatewood complex, 3 to 15 percent slopes, stony-----	8,545	1.8
73227	Ocie-Gatewood complex, 15 to 35 percent slopes, very stony-----	18,640	3.9
73228	Gatewood-Moko complex, 3 to 15 percent slopes, very rocky, very flaggy---	24,470	5.1
73229	Gatewood-Moko complex, 15 to 35 percent slopes, very rocky, very flaggy--	83,992	17.4
73230	Coulstone-Bender-Gatewood complex, 15 to 60 percent slopes, rocky, very stony-----	1,640	0.3
73231	Wasola silt loam, 1 to 8 percent slopes-----	895	0.2
73232	Alred-Ocie complex, 1 to 8 percent slopes-----	36,275	7.5
73233	Alred-Ocie complex, 8 to 15 percent slopes-----	9,655	2.0
73234	Alred-Gatewood complex, 15 to 35 percent slopes, stony-----	68,525	14.2
73235	Alred very gravelly silt loam, karst, 3 to 60 percent slopes, stony-----	1,300	0.3
73236	Scholten-Poynor complex, 3 to 8 percent slopes-----	1,520	0.3
73237	Clarksville very gravelly silt loam, 3 to 15 percent slopes-----	1,300	0.3
73239	Rueter-Rock outcrop complex, 15 to 50 percent slopes, very stony-----	6,340	1.3
73240	Jerktail silt loam, 3 to 8 percent slopes-----	700	0.1
73242	Fanchon-Tonti complex, 3 to 8 percent slopes-----	2,600	0.5
73243	Topazmill loam, 3 to 8 percent slopes-----	1,665	0.3
73245	Alred very gravelly silt loam, 1 to 8 percent slopes-----	2,720	0.6
73246	Alred very gravelly silt loam, 8 to 15 percent slopes-----	1,510	0.3
73247	Alred extremely gravelly silt loam, 15 to 35 percent slopes-----	2,930	0.6
73248	Alred-Bendavis complex, 8 to 15 percent slopes-----	405	*
73249	Alred-Ocie-Bendavis complex, 15 to 35 percent slopes, stony-----	2,946	0.6
74626	Tanglenook silt loam, 0 to 3 percent slopes, rarely flooded-----	310	*
74657	Pomme silt loam, bench, 1 to 8 percent slopes-----	7,090	1.5
74658	Zanoni fine sandy loam, 1 to 3 percent slopes, rarely flooded-----	1,775	0.4
75382	Cedargap gravelly loam, 0 to 3 percent slopes, frequently flooded-----	24,300	5.0
75390	Razort silt loam, 0 to 3 percent slopes, rarely flooded-----	1,895	0.4
75406	Racket loam, 0 to 3 percent slopes, frequently flooded-----	1,085	0.2
75417	Relfe-Sandbur complex, 0 to 3 percent slopes, frequently flooded-----	4,410	0.9
75422	Secesh loam, 0 to 3 percent slopes, occasionally flooded-----	1,935	0.4
75423	Cedargap very gravelly silt loam, 0 to 3 percent slopes, occasionally flooded-----	320	*
75424	Sandbur fine sandy loam, 0 to 3 percent slopes, frequently flooded-----	2,170	0.4
99001	Water-----	6,440	1.3
99002	Borrow areas-----	30	*
	Total-----	483,315	100.0

\* Less than 0.1 percent.

Table 5.--Land Capability and Yields per Acre of Crops and Pasture

(Yields are those that can be expected under a high level of management. They are for nonirrigated areas. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil)

Map symbol and soil name	Land capability	Alfalfa hay	Caucasian bluestem	Orchard- grass-red clover	Tall fescue	Warm-season grasses	Winter wheat
		Tons*	Tons*	Tons*	Tons*	Tons*	Bu
70026: Tonti-----	2e	4.45	5.75	4.80	5.00	5.75	38.0
73000: Pomme-----	3e	9.50	8.00	7.45	6.65	8.00	43.0
73015: Viraton-----	2e	4.45	5.75	4.80	5.00	5.75	41.0
73017: Bendavis-----	7e	---	---	---	---	---	---
Poynor-----	7e	---	5.00	---	3.00	---	---
73019: Poynor-----	4e	6.20	7.10	5.85	5.35	6.75	29.0
73023: Mano-----	4e	6.20	7.10	5.85	5.35	6.75	36.0
Ocie-----	4e	6.20	7.10	5.85	5.35	6.75	32.0
73024: Mano-----	6e	6.20	7.10	5.85	5.35	6.75	---
Ocie-----	6e	6.20	7.10	5.85	5.35	6.75	---
73069: Tick-----	7e	---	---	---	---	---	---
73073: Scholten-----	6e	2.25	2.65	1.10	2.25	2.65	---
Poynor-----	6e	6.20	7.10	5.85	5.35	6.75	---
73076: Mano-----	7e	6.20	7.10	5.85	5.35	6.75	---
Ocie-----	7e	6.20	7.10	5.85	5.35	6.75	---
73198: Gressy-----	3e	9.50	8.00	7.45	6.65	8.00	43.0
Viraton-----	3e	4.45	5.75	4.80	5.00	5.75	30.0
73199: Moko-----	6s	---	---	---	---	---	---
Rock outcrop.							
73220: Poynor-----	6e	6.20	7.10	5.85	5.35	6.75	---
73221: Poynor-----	7e	6.20	7.10	5.85	5.35	6.75	---

See footnote at end of table.

Table 5.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Alfalfa hay	Caucasian bluestem	Orchard- grass-red clover	Tall fescue	Warm-season grasses	Winter wheat
		Tons*	Tons*	Tons*	Tons*	Tons*	Bu
73222: Splitlimb-----	2w	9.50	8.00	7.45	6.65	8.00	50.0
73223: Coulstone-----	7e	---	---	---	---	---	---
Bender-----	7e	---	---	---	---	---	---
73224: Moko-----	7s	---	---	---	---	---	---
Rock outcrop.							
73225: Ocie-----	6e	6.20	7.10	5.85	5.35	6.75	32.0
Gatewood-----	6e	5.75	6.65	5.85	5.35	6.75	24.0
73226: Ocie-----	6e	6.20	7.10	5.85	5.35	6.75	---
Gatewood-----	6e	5.75	6.65	5.85	5.35	6.75	---
73227: Ocie-----	7e	---	---	---	---	---	---
Gatewood-----	7e	---	---	---	---	---	---
73228: Gatewood-----	6e	---	---	---	---	---	---
Moko-----	6s	---	---	---	---	---	---
73229: Gatewood-----	7e	---	---	---	---	---	---
Moko-----	7s	---	---	---	---	---	---
73230: Coulstone-----	7e	---	---	---	---	---	---
Bender-----	7e	---	---	---	---	---	---
Gatewood-----	7e	---	---	---	---	---	---
73231: Wasola-----	3e	9.50	8.00	7.45	6.65	8.00	48.0
73232: Alred-----	4e	6.20	7.10	5.85	5.35	6.75	32.0
Ocie-----	4e	6.20	7.10	5.85	5.35	6.75	32.0
73233: Alred-----	6e	6.20	7.10	5.85	5.35	6.75	---
Ocie-----	6e	6.20	7.10	5.85	5.35	6.75	---

See footnote at end of table.

Table 5.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Alfalfa hay	Caucasian bluestem	Orchard- grass-red clover	Tall fescue	Warm-season grasses	Winter wheat
		Tons*	Tons*	Tons*	Tons*	Tons*	Bu
73234:							
Alred-----	7e	3.70	3.40	3.40	2.90	3.60	---
Gatewood-----	7e	---	---	---	---	---	---
73235:							
Alred-----	7e	6.20	7.10	5.85	5.35	6.75	---
73236:							
Scholten-----	4e	2.25	2.65	1.10	2.25	2.65	19.0
Poynor-----	4e	6.20	7.10	5.85	5.35	6.75	29.0
73237:							
Clarksville---	7e	3.20	2.90	2.90	2.50	3.00	---
73239:							
Rueter-----	7e	---	---	---	---	---	---
Rock outcrop.							
73240:							
Jerktail-----	3e	7.50	8.00	7.50	7.00	7.50	41.0
73242:							
Fanchon-----	3e	9.50	8.00	7.45	6.65	8.00	41.0
Tonti-----	3e	9.50	8.00	7.45	6.65	8.00	36.0
73243:							
Topazmill----	3e	9.50	8.00	7.45	6.65	8.00	43.0
73245:							
Alred-----	4e	6.20	5.35	5.85	6.75	6.20	32.0
73246:							
Alred-----	6e	6.20	7.10	5.85	5.35	6.75	---
73247:							
Alred-----	7e	3.70	3.40	3.40	2.90	3.60	---
73248:							
Alred-----	6e	6.20	7.10	5.85	5.35	6.75	---
Bendavis-----	6e	5.75	6.65	5.85	5.35	6.75	---
73249:							
Alred-----	7e	6.20	7.10	5.85	5.35	6.75	---
Ocie-----	7e	6.20	7.10	5.85	5.35	6.75	---
Bendavis-----	6e	5.75	6.65	5.85	5.35	6.75	---
74626:							
Tanglenook----	3w	---	---	7.10	8.00	9.25	46.0
74657:							
Pomme-----	3e	9.50	8.00	7.45	6.65	8.00	43.0
74658:							
Zanoni-----	2e	8.90	8.85	7.45	6.75	9.20	38.0

See footnote at end of table.

Table 5.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Alfalfa hay	Caucasian bluestem	Orchard- grass-red clover	Tall fescue	Warm-season grasses	Winter wheat
		Tons*	Tons*	Tons*	Tons*	Tons*	Bu
75382: Cedargap-----	3w	2.65	4.00	1.20	2.65	3.65	24.0
75390: Razort-----	2e	8.90	8.85	7.45	6.75	9.20	48.0
75406: Racket-----	2w	8.90	8.85	7.45	6.75	9.20	41.0
75417: Relife-----	4s	3.55	3.00	3.20	3.20	3.35	---
Sandbur-----	3w	8.90	8.85	7.45	6.75	9.20	---
75422: Secesh-----	2w	8.90	8.85	7.45	6.75	9.20	41.0
75423: Cedargap-----	3s	2.65	4.00	1.20	2.65	3.65	31.0
75424: Sandbur-----	3w	8.90	8.85	7.45	6.75	9.20	26.0
99001. Water							
99002: Borrow areas--	8s	---	---	---	---	---	---

\* Yields (tons) are for total above-ground biomass production.



Table 6.--Pasture and Hayland Suitability Groups

(See text for descriptions of the groups listed in this table)

Map symbol	Map unit name	Component name	Pasture and hayland group
70026	Tonti silt loam, 1 to 3 percent slopes-----	Tonti	LyP
73000	Pomme silt loam, 3 to 8 percent slopes-----	Pomme	LyU
73015	Viraton silt loam, 1 to 3 percent slopes-----	Viraton	LyP
73017	Bendavis-Poynor complex, 15 to 50 percent slopes, rocky, very stony-----	Bendavis	GNS
		Poynor	GNS
73019	Poynor very gravelly silt loam, 1 to 8 percent slopes-----	Poynor	GrU
73023	Mano-Ocie complex, 1 to 8 percent slopes-----	Mano	GrU
		Ocie	GrU
73024	Mano-Ocie complex, 8 to 15 percent slopes, stony-----	Mano	GrU
		Ocie	GrU
73069	Tick extremely gravelly silt loam, 15 to 50 percent slopes, very stony-----	Tick	GNS
73073	Scholten-Poynor complex, 8 to 15 percent slopes-----	Scholten	GrP
		Poynor	GrU
73076	Mano-Ocie complex, 15 to 35 percent slopes, stony-----	Mano	GrU
		Ocie	GrU
73198	Gressy-Viraton complex, 3 to 8 percent slopes-----	Gressy	LyU
		Viraton	LyP
73199	Moko-Rock outcrop complex, 3 to 15 percent slopes, very flaggy-----	Moko	ShU
		Rock outcrop	---
73220	Poynor extremely gravelly silt loam, 8 to 15 percent slopes-----	Poynor	GrU
73221	Poynor very gravelly silt loam, karst, 3 to 35 percent slopes, stony-----	Poynor	GrU
73222	Splitlimb silt loam, 0 to 3 percent slopes, frequently ponded-----	Splitlimb	LyU
73223	Coulstone-Bender complex, 15 to 50 percent slopes, very stony-----	Coulstone	GNS
		Bender	GNS
73224	Moko-Rock outcrop complex, 15 to 35 percent slopes, extremely flaggy-----	Moko	GNS
		Rock outcrop	---
73225	Ocie-Gatewood complex, 3 to 8 percent slopes-----	Ocie	GrU
		Gatewood	MDU
73226	Ocie-Gatewood complex, 3 to 15 percent slopes, stony-----	Ocie	GrU
		Gatewood	MDU
73227	Ocie-Gatewood complex, 15 to 35 percent slopes, very stony-----	Ocie	GNS
		Gatewood	GNS
73228	Gatewood-Moko complex, 3 to 15 percent slopes, very rocky, very flaggy-----	Gatewood	MDU
		Moko	ShU
73229	Gatewood-Moko complex, 15 to 35 percent slopes, very rocky, very flaggy-----	Gatewood	GNS
		Moko	GNS
73230	Coulstone-Bender-Gatewood complex, 15 to 60 percent slopes, rocky, very stony	Coulstone	GNS
		Bender	GNS
		Gatewood	GNS
73231	Wasola silt loam, 1 to 8 percent slopes-----	Wasola	LyU
73232	Alred-Ocie complex, 1 to 8 percent slopes-----	Alred	GrU
		Ocie	GrU
73233	Alred-Ocie complex, 8 to 15 percent slopes-----	Alred	GrU
		Ocie	GrU
73234	Alred-Gatewood complex, 15 to 35 percent slopes, stony-----	Alred	GNS
		Gatewood	GNS
73235	Alred very gravelly silt loam, karst, 3 to 60 percent slopes, stony-----	Alred	GrU
73236	Scholten-Poynor complex, 3 to 8 percent slopes-----	Scholten	GrP
		Poynor	GrU
73237	Clarksville very gravelly silt loam, 3 to 15 percent slopes-----	Clarksville	GNS
73239	Rueter-Rock outcrop complex, 15 to 50 percent slopes, very stony-----	Rueter	GNS
		Rock outcrop	---
73240	Jerktail silt loam, 3 to 8 percent slopes-----	Jerktail	CyU
73242	Fanchon-Tonti complex, 3 to 8 percent slopes-----	Fanchon	LyU
		Tonti	LyP
73243	Topazmill loam, 3 to 8 percent slopes-----	Topazmill	LyU
73245	Alred very gravelly silt loam, 1 to 8 percent slopes-----	Alred	GrU
73246	Alred very gravelly silt loam, 8 to 15 percent slopes-----	Alred	GrU
73247	Alred extremely gravelly silt loam, 15 to 35 percent slopes-----	Alred	GNS

Table 6.--Pasture and Hayland Suitability Groups--Continued

Map symbol	Map unit name	Component name	Pasture and hayland group
73248	Alred-Bendavis complex, 8 to 15 percent slopes-----	Alred	GrU
		Bendavis	MDU
73249	Alred-Ocie-Bendavis complex, 15 to 35 percent slopes, stony-----	Alred	GNS
		Ocie	GNS
		Bendavis	GNS
74626	Tanglenook silt loam, 0 to 3 percent slopes, rarely flooded-----	Tanglenook	WCB
74657	Pomme silt loam, bench, 1 to 8 percent slopes-----	Pomme	LyU
74658	Zanoni fine sandy loam, 1 to 3 percent slopes, rarely flooded-----	Zanoni	LyO
75382	Cedargap gravelly loam, 0 to 3 percent slopes, frequently flooded-----	Cedargap	GrO
75390	Razort silt loam, 0 to 3 percent slopes, rarely flooded-----	Razort	LyO
75406	Racket loam, 0 to 3 percent slopes, frequently flooded-----	Racket	LyO
75417	Relfe-Sandbur complex, 0 to 3 percent slopes, frequently flooded-----	Relfe	SyO
		Sandbur	LyO
75422	Secesh loam, 0 to 3 percent slopes, occasionally flooded-----	Secesh	LyO
75423	Cedargap very gravelly silt loam, 0 to 3 percent slopes, occasionally flooded	Cedargap	GrO
75424	Sandbur fine sandy loam, 0 to 3 percent slopes, frequently flooded-----	Sandbur	LyO
99001	Water-----	Water	---
99002	Borrow areas-----	Borrow areas	GNS

Table 7.--Forestland Productivity

(See text for an explanation of terms used in this table. Absence of an entry indicates that information was not available)

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
70026: Tonti-----	Black oak-----	60	43	Black oak,
	Post oak-----	---	---	shortleaf pine
	Shortleaf pine-----	53	71	
73000: Pomme-----	Northern red oak----	65	43	Black oak, northern
	White oak-----	60	43	red oak, white oak
73015: Viraton-----	Black oak-----	60	43	Black oak,
	Shortleaf pine-----	56	86	shortleaf pine,
	White oak-----	55	43	white oak
73017: Bendavis-----	Black oak-----	55	43	Black oak, scarlet
	Post oak-----	45	29	oak, shortleaf
	Scarlet oak-----	---	---	pine
	Shortleaf pine-----	56	86	
Poynor-----	Black oak-----	60	43	Black oak,
	Shortleaf pine-----	58	86	shortleaf pine
	White oak-----	54	43	
73019: Poynor-----	Black oak-----	60	43	Black oak,
	Shortleaf pine-----	58	86	shortleaf pine
	White oak-----	54	43	
73023: Mano-----	Black oak-----	65	43	Northern red oak,
	Northern red oak----	---	---	white oak
	White oak-----	60	43	
Ocie-----	Black oak-----	60	43	Northern red oak,
	Northern red oak----	---	---	shortleaf pine,
	White oak-----	57	43	white oak
73024: Mano-----	Black oak-----	65	43	Northern red oak,
	Northern red oak----	---	---	white oak
	White oak-----	60	43	
Ocie-----	Black oak-----	60	43	Northern red oak,
	Northern red oak----	---	---	shortleaf pine,
	White oak-----	57	43	white oak
73069: Tick-----	Black oak-----	55	43	Black oak
	Post oak-----	45	29	
	White oak-----	50	29	

Table 7.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
73073: Scholten-----	Black oak-----	50	29	Black oak, eastern redcedar, shortleaf pine
	Blackjack oak-----	---	---	
	Hickory-----	---	---	
	Post oak-----	---	---	
Poynor-----	Black oak-----	60	43	Black oak, shortleaf pine
	Shortleaf pine-----	58	86	
	White oak-----	54	43	
73076: Mano-----	Black oak-----	65	43	Northern red oak, white oak
	Northern red oak----	---	---	
	White oak-----	60	43	
Ocie-----	Black oak-----	60	43	Northern red oak, shortleaf pine
	Northern red oak----	---	---	
	White oak-----	57	43	
73198: Gressy-----	Northern red oak----	65	43	Black walnut, white oak
	White oak-----	65	43	
Viraton-----	Black oak-----	60	43	Black oak, shortleaf pine, white oak
	Shortleaf pine-----	56	86	
	White oak-----	55	43	
73199: Moko-----	Eastern redcedar----	30	29	Eastern redcedar
Rock outcrop.				
73220: Poynor-----	Black oak-----	60	43	Black oak, shortleaf pine
	Shortleaf pine-----	58	86	
	White oak-----	54	43	
73221: Poynor-----	Black oak-----	60	43	Black oak, shortleaf pine
	Shortleaf pine-----	58	86	
	White oak-----	54	43	
73222: Splitlimb-----	Black oak-----	---	---	Black oak, northern red oak, white oak
	Northern red oak----	70	57	
	Shortleaf pine-----	---	---	
	White oak-----	66	43	
73223: Coulstone-----	Black oak-----	56	43	Black oak, scarlet oak, shortleaf pine
	Scarlet oak-----	---	---	
	Shortleaf pine-----	57	86	
	White oak-----	55	43	
Bender-----	Black oak-----	52	29	Black oak, scarlet oak, shortleaf pine
	Scarlet oak-----	---	---	
	Shortleaf pine-----	53	71	
	White oak-----	50	29	

Table 7.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
73224: Moko-----  Rock outcrop.	Eastern redcedar----	30	29	Eastern redcedar
73225: Ocie-----	Black oak----- Northern red oak---- White oak-----	58 --- 57	43 --- 43	Northern red oak, shortleaf pine
Gatewood-----	Black oak----- Eastern redcedar---- Post oak----- White oak-----	42 40 43 45	29 43 29 29	Eastern redcedar, shortleaf pine
73226: Ocie-----	Black oak----- Northern red oak---- White oak-----	58 --- 57	43 --- 43	Northern red oak, shortleaf pine
Gatewood-----	Black oak----- Eastern redcedar---- Post oak----- White oak-----	42 40 43 45	29 43 29 29	Eastern redcedar, shortleaf pine
73227: Ocie-----	Black oak----- Northern red oak---- White oak-----	58 --- 57	43 --- 43	Northern red oak, shortleaf pine
Gatewood-----	Black oak----- Eastern redcedar---- Post oak----- White oak-----	42 40 43 45	29 43 29 29	Eastern redcedar, shortleaf pine
73228: Gatewood-----	Black oak----- Eastern redcedar---- Post oak----- White oak-----	42 40 43 45	29 43 29 29	Eastern redcedar, shortleaf pine
Moko-----	Eastern redcedar----	30	29	Eastern redcedar
73229: Gatewood-----	Black oak----- Eastern redcedar---- Post oak----- White oak-----	42 40 43 45	29 43 29 29	Eastern redcedar, shortleaf pine
Moko-----	Eastern redcedar----	30	29	Eastern redcedar
73230: Coulstone-----	Black oak----- Scarlet oak----- Shortleaf pine----- White oak-----	56 --- 57 55	43 --- 86 43	Black oak, shortleaf pine
Bender-----	Black oak----- Scarlet oak----- Shortleaf pine----- White oak-----	52 --- 53 50	29 --- 71 29	Black oak, scarlet oak, shortleaf pine



Table 7.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
73230: Gatewood-----	Black oak-----	42	29	Eastern redcedar, shortleaf pine
	Eastern redcedar----	40	43	
	Post oak-----	43	29	
	White oak-----	45	29	
73231: Wasola-----	Northern red oak----	65	43	Black walnut, shortleaf pine, white oak
	White oak-----	65	43	
73232: Alred-----	Black oak-----	63	43	Northern red oak, shortleaf pine
	Shortleaf pine-----	60	86	
	White oak-----	56	43	
Ocie-----	Black oak-----	58	43	Northern red oak, shortleaf pine
	Northern red oak----	---	---	
	White oak-----	57	43	
73233: Alred-----	Black oak-----	63	43	Northern red oak, shortleaf pine
	Shortleaf pine-----	60	86	
	White oak-----	56	43	
Ocie-----	Black oak-----	58	43	Northern red oak, shortleaf pine
	Northern red oak----	---	---	
	White oak-----	57	43	
73234: Alred-----	Black oak-----	63	43	Black oak, shortleaf pine, white oak
	Shortleaf pine-----	60	86	
	White oak-----	56	43	
Gatewood.				
73235: Alred-----	Black oak-----	60	43	Black oak, shortleaf pine, white oak
	Shortleaf pine-----	60	86	
	White oak-----	56	43	
73236: Scholten-----	Black oak-----	50	29	Black oak, shortleaf pine, white oak
	Blackjack oak-----	---	---	
	Hickory-----	---	---	
	Post oak-----	---	---	
Poynor-----	Black oak-----	53	43	Shortleaf pine, white oak
	Shortleaf pine-----	55	86	
	White oak-----	48	29	
73237: Clarksville-----	Black oak-----	61	43	Northern red oak, white oak
	Northern red oak----	---	---	
	Shortleaf pine-----	58	86	
	White oak-----	55	43	

Table 7.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
73239: Rueter-----	Black oak-----	53	43	Northern red oak, white oak
	Hickory-----	---	---	
	Post oak-----	45	29	
Rock outcrop.				
73240: Jerktail-----	Black oak-----	58	43	Northern red oak, shortleaf pine, white oak
	Blackjack oak-----	---	---	
	Hickory-----	---	---	
	Northern red oak----	---	---	
	Post oak-----	---	---	
	White oak-----	---	---	
73242: Fanchon-----	Northern red oak----	65	43	Black walnut, shortleaf pine, white oak
	White oak-----	65	43	
Tonti-----	Black oak-----	60	43	Black oak, shortleaf pine
	Post oak-----	---	---	
	Shortleaf pine-----	53	71	
73243: Topazmill-----	Black oak-----	75	57	Green ash, northern red oak, shortleaf pine, white oak
	Northern red oak----	75	57	
	White oak-----	65	43	
73245: Alred-----	Black oak-----	60	43	Northern red oak, shortleaf pine, white oak
	Shortleaf pine-----	60	86	
	White oak-----	56	43	
73246: Alred-----	Black oak-----	60	43	Northern red oak, shortleaf pine, white oak
	Shortleaf pine-----	60	86	
	White oak-----	56	43	
73247: Alred-----	Black oak-----	60	43	Black oak, shortleaf pine, white oak
	Shortleaf pine-----	60	86	
	White oak-----	56	43	
73248: Alred-----	Black oak-----	60	43	Black oak, shortleaf pine, white oak
	Shortleaf pine-----	60	86	
	White oak-----	56	43	
Bendavis-----	Black oak-----	48	29	Shortleaf pine
	Post oak-----	45	29	
	Shortleaf pine-----	---	---	
73249: Alred-----	Black oak-----	60	43	Black oak, shortleaf pine, white oak
	Shortleaf pine-----	60	86	
	White oak-----	56	43	
Ocie-----	Black oak-----	58	43	Northern red oak, shortleaf pine
	Northern red oak----	---	---	
	White oak-----	57	43	

Table 7.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
73249: Bendavis-----	Black oak-----	48	29	Shortleaf pine
	Post oak-----	45	29	
	Shortleaf pine-----	---	---	
74626: Tanglenook-----	American sycamore---	---	---	Eastern cottonwood,
	Common hackberry---	---	---	green ash, pin
	Eastern cottonwood--	90	100	oak, silver maple
	Pin oak-----	---	---	
	Silver maple-----	80	79	
74657: Pomme-----	Northern red oak---	65	43	Black walnut,
	White oak-----	65	43	shortleaf pine, white oak
74658: Zanoni-----	American sycamore---	85	86	Black walnut,
	Black walnut-----	---	---	shortleaf pine
	Shortleaf pine-----	---	---	
	White oak-----	75	57	
75382: Cedargap-----	Black oak-----	66	43	Black oak,
	Black walnut-----	---	---	shortleaf pine
	Green ash-----	---	---	
75390: Razort-----	American sycamore---	85	86	Black walnut,
	Eastern cottonwood--	90	100	northern red oak,
	Northern red oak---	75	57	white oak
	White oak-----	70	57	
75406: Racket-----	American sycamore---	---	---	Black walnut, green
	Black cherry-----	---	---	ash, silver maple
	Black walnut-----	72	72	
	Green ash-----	---	---	
	Northern red oak---	---	---	
75417: Relfe-----	Black oak-----	60	43	Black oak,
	Shortleaf pine-----	---	---	shortleaf pine
Sandbur-----	American basswood---	---	---	American sycamore,
	American sycamore---	---	---	black walnut,
	Northern red oak---	---	---	green ash,
	River birch-----	---	---	northern red oak
	White oak-----	60	43	
75422: Secesh-----	American sycamore---	---	---	American sycamore,
	Black oak-----	---	---	black walnut,
	Black walnut-----	---	---	shortleaf pine
	Shortleaf pine-----	---	---	
	White oak-----	60	43	
75423: Cedargap-----	Black oak-----	66	43	Black oak,
				shortleaf pine

Table 7.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
75424: Sandbur-----	American basswood---	---	---	American sycamore, black walnut, green ash, northern red oak
	American sycamore---	---	---	
	Northern red oak----	---	---	
	River birch-----	---	---	
	White oak-----	60	43	
99001. Water				
99002. Borrow areas				

Table 8a.--Forestland Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Hand planting		Mechanical planting		Use of harvesting equipment		Mechanical site preparation (surface)		Roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
70026: Tonti-----	Not limited		Not limited		Moderately limited low strength (moderately limited) seasonal wetness (slightly limited)	0.50 0.20	Slightly limited seasonal wetness (slightly limited)	0.20	Moderately limited low strength (moderately limited) seasonal wetness (slightly limited)	0.50 0.20
73000: Pomme-----	Not limited		Not limited		Moderately limited low strength (moderately limited)	0.50	Not limited		Moderately limited slippage potential (moderately limited) low strength (moderately limited)	0.50 0.50
73015: Viraton-----	Moderately limited seasonal wetness (moderately limited)	0.60	Moderately limited seasonal wetness (moderately limited)	0.60	Limited seasonal wetness (limited) low strength (moderately limited)	0.85 0.50	Limited seasonal wetness (limited)	0.85	Limited seasonal wetness (limited) low strength (moderately limited)	0.85 0.50
73017: Bendavis-----	Limited small stones (limited) slope (slightly limited)	0.67 0.25	Very limited slope (very limited) small stones (limited) surface stones (moderately limited)	1.00 0.67 0.38	Limited slope (limited) seasonal wetness (slightly limited)	0.91 0.10	Limited slope (limited) small stones (limited) seasonal wetness (slightly limited)	0.91 0.67 0.10	Very limited slope (very limited) seasonal wetness (slightly limited)	1.00 0.10
Poynor-----	Limited small stones (limited) slope (slightly limited)	0.73 0.14	Limited slope (limited) small stones (limited) surface stones (slightly limited)	0.99 0.73 0.03	Moderately limited slope (moderately limited)	0.60	Limited small stones (limited) slope (moderately limited)	0.73 0.60	Very limited slope (very limited)	1.00



Table 8a.--Forestland Management--Continued

Map symbol and soil name	Hand planting		Mechanical planting		Use of harvesting equipment		Mechanical site preparation (surface)		Roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73019: Poynor-----	Limited small stones (limited)	0.67	Limited small stones (limited) slope (slightly limited)	0.67 0.10	Not limited		Limited small stones (limited)	0.67	Not Limited	
73023: Mano-----	Slightly limited small stones (slightly limited)	0.08	Slightly limited small stones (slightly limited)	0.08	Moderately limited low strength (moderately limited) seasonal wetness (slightly limited)	0.50 0.10	Slightly limited seasonal wetness (slightly limited)	0.10	Moderately limited slippage potential (moderately limited) low strength (moderately limited) seasonal wetness (slightly limited)	0.50 0.50 0.10
Ocie-----	Moderately limited small stones (moderately limited)	0.42	Moderately limited small stones (moderately limited)	0.42	Slightly limited seasonal wetness (slightly limited)	0.10	Slightly limited small stones (slightly limited) seasonal wetness (slightly limited)	0.30 0.10	Moderately limited slippage potential (moderately limited) seasonal wetness (slightly limited)	0.50 0.10
73024: Mano-----	Slightly limited small stones (slightly limited)	0.24	Moderately limited slope (moderately limited) small stones (slightly limited) surface stones (slightly limited)	0.47 0.24 0.03	Slightly limited seasonal wetness (slightly limited)	0.10	Slightly limited seasonal wetness (slightly limited) small stones (slightly limited)	0.10 0.01	Limited slope (limited) slippage potential (moderately limited) seasonal wetness (slightly limited)	0.76 0.50 0.10
Ocie-----	Moderately limited small stones (moderately limited)	0.42	Moderately limited slope (moderately limited) small stones (moderately limited) surface stones (slightly limited)	0.47 0.42 0.03	Slightly limited seasonal wetness (slightly limited)	0.10	Slightly limited small stones (slightly limited) seasonal wetness (slightly limited)	0.30 0.10	Limited slope (limited) slippage potential (moderately limited) seasonal wetness (slightly limited)	0.76 0.50 0.10

Table 8a.--Forestland Management--Continued

Map symbol and soil name	Hand planting		Mechanical planting		Use of harvesting equipment		Mechanical site preparation (surface)		Roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73069: Tick-----	Limited small stones (limited) very sandy (surface) (moderately limited) slope (slightly limited)	0.93 0.50 0.14	Limited slope (limited) small stones (limited) very sandy (surface) (moderately limited)	0.99 0.93 0.50	Moderately limited slope (moderately limited) very sandy (surface) (moderately limited)	0.60 0.50	Limited small stones (limited) slope (moderately limited)	0.94 0.60	Very limited slope (very limited) slippage potential (limited) very sandy (surface) (moderately limited)	1.00 0.90 0.50
73073: Scholten-----	Moderately limited small stones (moderately limited)	0.42	Moderately limited slope (moderately limited) small stones (moderately limited)	0.47 0.42	Slightly limited seasonal wetness (slightly limited)	0.28	Slightly limited small stones (slightly limited) seasonal wetness (slightly limited)	0.30 0.28	Limited slope (limited) seasonal wetness (slightly limited)	0.76 0.28
Poynor-----	Moderately limited small stones (moderately limited)	0.60	Moderately limited small stones (moderately limited) slope (moderately limited)	0.60 0.47	Not limited		Moderately limited small stones (moderately limited)	0.60	Limited slope (limited)	0.76
73076: Mano-----	Moderately limited small stones (moderately limited) slope (slightly limited)	0.42 0.14	Limited slope (limited) small stones (moderately limited)	0.99 0.42	Moderately limited slope (moderately limited) seasonal wetness (slightly limited)	0.60 0.10	Moderately limited slope (moderately limited) small stones (slightly limited) seasonal wetness (slightly limited)	0.60 0.30 0.10	Very limited slope (very limited) slippage potential (moderately limited) seasonal wetness (slightly limited)	1.00 0.50 0.10
Ocie-----	Moderately limited small stones (moderately limited) slope (slightly limited)	0.42 0.14	Limited slope (limited) small stones (moderately limited)	0.99 0.42	Moderately limited slope (moderately limited) seasonal wetness (slightly limited)	0.60 0.10	Moderately limited slope (moderately limited) small stones (slightly limited) seasonal wetness (slightly limited)	0.60 0.30 0.10	Very limited slope (very limited) slippage potential (moderately limited) seasonal wetness (slightly limited)	1.00 0.50 0.10
73198: Gressy-----	Not limited		Not limited		Moderately limited low strength (moderately limited)	0.50	Not limited		Moderately limited low strength (moderately limited)	0.50

Table 8a.--Forestland Management--Continued

Map symbol and soil name	Hand planting		Mechanical planting		Use of harvesting equipment		Mechanical site preparation (surface)		Roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73198: Viraton-----	Not limited		Not limited		Moderately limited low strength (moderately limited) seasonal wetness (slightly limited)	0.50 0.20	Slightly limited seasonal wetness (slightly limited)	0.20	Moderately limited low strength (moderately limited) seasonal wetness (slightly limited)	0.50 0.20
73199: Moko-----	Limited large stones (limited) small stones (slightly limited)	0.61 0.08	Limited large stones >35% (very limited) slope (moderately limited) surface stones (slightly limited)	0.99 0.34 0.09	Not limited		Limited large stones (limited)	0.61	Moderately limited slippage potential (moderately limited) slope (moderately limited)	0.50 0.45
Rock outcrop--	Not rated		Not rated		Not rated		Not rated		Not rated	
73220: Poynor-----	Very limited small stones (very limited) very sandy (surface) (moderately limited)	1.00 0.50	Very limited small stones (very limited) very sandy (surface) (moderately limited) slope (moderately limited)	1.00 0.50 0.47	Moderately limited very sandy (surface) (moderately limited)	0.50	Very limited small stones (very limited)	1.00	Limited slope (limited) very sandy (surface) (moderately limited)	0.76 0.50
73221: Poynor-----	Limited small stones (limited) slope (slightly limited)	0.81 0.01	Limited small stones (limited) slope (moderately limited) surface stones (slightly limited)	0.81 0.60 0.03	Slightly limited slope (slightly limited)	0.05	Limited small stones (limited) slope (slightly limited)	0.81 0.05	Limited slope (limited)	0.99
73222: Splitlimb-----	Limited seasonally ponded (limited)	0.80	Limited seasonally ponded (limited)	0.80	Limited seasonally ponded (limited) low strength (moderately limited) seasonal wetness (slightly limited)	0.80 0.50 0.26	Limited seasonally ponded (limited) seasonal wetness (slightly limited)	0.80 0.26	Very limited ponded (wetness) (very limited) low strength (moderately limited) seasonal wetness (slightly limited)	1.00 0.50 0.26

Table 8a.--Forestland Management--Continued

Map symbol and soil name	Hand planting		Mechanical planting		Use of harvesting equipment		Mechanical site preparation (surface)		Roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73223: Coulstone-----	Limited surface stones (limited) small stones (moderately limited) slope (slightly limited)	0.66 0.60 0.14	Very limited surface stones >15% (very limited) slope (limited) small stones (moderately limited)	1.00 0.99 0.60	Moderately limited slope (moderately limited) large surface stones (moderately limited)	0.60 0.52	Moderately limited slope (moderately limited) small stones (moderately limited) large surface stones (moderately limited)	0.60 0.60 0.52	Very limited slope (very limited) surface stones (limited) large surface stones (moderately limited)	1.00 0.66 0.52
Bender-----	Moderately limited very sandy (surface) (moderately limited) surface stones (moderately limited) large stones (moderately limited)	0.50 0.41 0.40	Very limited slope (very limited) surface stones (limited) large stones (limited)	1.00 0.78 0.73	Limited slope (limited) very sandy (surface) (moderately limited)	0.79 0.50	Limited slope (limited) large stones (moderately limited)	0.79 0.40	Very limited slope (very limited) very sandy (surface) (moderately limited) slippage potential (moderately limited)	1.00 0.50 0.50
73224: Moko-----	Slightly limited slope (slightly limited) small stones (slightly limited) large stones (slightly limited)	0.14 0.13 0.06	Limited slope (limited) large stones (moderately limited) small stones (slightly limited)	0.99 0.33 0.13	Moderately limited slope (moderately limited)	0.60	Moderately limited slope (moderately limited) large stones (slightly limited)	0.60 0.06	Very limited slope (very limited) slippage potential (moderately limited)	1.00 0.50
Rock outcrop--	Not rated		Not rated		Not rated		Not rated		Not rated	
73225: Ocie-----	Slightly limited small stones (slightly limited)	0.08	Slightly limited slope (slightly limited) small stones (slightly limited)	0.10 0.08	Slightly limited seasonal wetness (slightly limited)	0.10	Slightly limited seasonal wetness (slightly limited)	0.10	Moderately limited slippage potential (moderately limited) seasonal wetness (slightly limited)	0.50 0.10
Gatewood-----	Moderately limited small stones (moderately limited)	0.42	Moderately limited small stones (moderately limited) slope (slightly limited)	0.42 0.10	Slightly limited seasonal wetness (slightly limited) slope (slightly limited)	0.15	Slightly limited small stones (slightly limited) seasonal wetness (slightly limited)	0.30 0.15	Slightly limited seasonal wetness (slightly limited)	0.15

Table 8a.--Forestland Management--Continued

Map symbol and soil name	Hand planting		Mechanical planting		Use of harvesting equipment		Mechanical site preparation (surface)		Roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73226: Ocie-----	Moderately limited small stones (moderately limited)	0.42	Moderately limited small stones (moderately limited) slope (moderately limited)	0.42 0.34	Slightly limited seasonal wetness (slightly limited)	0.10	Slightly limited small stones (slightly limited) seasonal wetness (slightly limited)	0.30 0.10	Moderately limited slippage potential (moderately limited) slope (moderately limited) seasonal wetness (slightly limited)	0.50 0.45 0.10
Gatewood-----	Moderately limited small stones (moderately limited)	0.42	Moderately limited small stones (moderately limited) slope (moderately limited)	0.42 0.34	Slightly limited seasonal wetness (slightly limited)	0.15	Slightly limited small stones (slightly limited) seasonal wetness (slightly limited)	0.30 0.15	Moderately limited slope (moderately limited) seasonal wetness (slightly limited)	0.45 0.15
73227: Ocie-----	Moderately limited small stones (moderately limited) slope (slightly limited)	0.42 0.25	Very limited slope (very limited) small stones (moderately limited)	1.00 0.42	Limited slope (limited) low strength (moderately limited) seasonal wetness (slightly limited)	0.91 0.50 0.10	Limited slope (limited) small stones (slightly limited) seasonal wetness (slightly limited)	0.91 0.30 0.10	Very limited slope (very limited) slippage potential (moderately limited) low strength (moderately limited)	1.00 0.50 0.50
Gatewood-----	Moderately limited small stones (moderately limited) slope (slightly limited)	0.51 0.25	Very limited slope (very limited) small stones (moderately limited)	1.00 0.51	Limited slope (limited) seasonal wetness (slightly limited)	0.91 0.15	Limited slope (limited) small stones (moderately limited) seasonal wetness (slightly limited)	0.91 0.45 0.15	Very limited slope (very limited) seasonal wetness (slightly limited)	1.00 0.15
73228: Gatewood-----	Moderately limited small stones (moderately limited)	0.42	Moderately limited small stones (moderately limited) slope (moderately limited) surface stones (slightly limited)	0.42 0.34 0.09	Slightly limited seasonal wetness (slightly limited)	0.15	Slightly limited small stones (slightly limited) seasonal wetness (slightly limited)	0.30 0.15	Moderately limited slope (moderately limited) seasonal wetness (slightly limited)	0.45 0.15



Table 8a.--Forestland Management--Continued

Map symbol and soil name	Hand planting		Mechanical planting		Use of harvesting equipment		Mechanical site preparation (surface)		Roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73228: Moko-----	Slightly limited small stones (slightly limited) large stones (slightly limited)	0.13  0.06	Moderately limited slope (moderately limited) large stones (moderately limited) small stones (slightly limited)	0.34  0.33  0.13	Not limited		Slightly limited large stones (slightly limited)	0.06	Moderately limited slippage potential (moderately limited) slope (moderately limited)	0.50  0.45
73229: Gatewood-----	Slightly limited slope (slightly limited) small stones (slightly limited)	0.14  0.13	Limited slope (limited) small stones (slightly limited) surface stones (slightly limited)	0.99  0.13  0.09	Moderately limited slope (moderately limited) seasonal wetness (slightly limited)	0.60  0.15	Moderately limited slope (moderately limited) seasonal wetness (slightly limited)	0.60  0.15	Very limited slope (very limited) seasonal wetness (slightly limited)	1.00  0.15
Moko-----	Slightly limited slope (slightly limited) small stones (slightly limited) large stones (slightly limited)	0.14  0.13  0.06	Limited slope (limited) large stones (moderately limited) small stones (slightly limited)	0.99  0.33  0.13	Moderately limited slope (moderately limited)	0.60	Moderately limited slope (moderately limited) large stones (slightly limited)	0.60  0.06	Very limited slope (very limited) slippage potential (moderately limited)	1.00  0.50
73230: Coulstone-----	Limited surface stones (limited) large stones (limited) slope (slightly limited)	0.66  0.61  0.14	Very limited surface stones >15% (very limited) large stones >35% (very limited) slope (limited)	1.00  0.99  0.99	Moderately limited slope (moderately limited) large surface stones (moderately limited)	0.60  0.52	Limited large stones (limited) slope (moderately limited) large surface stones (moderately limited)	0.61  0.60  0.52	Very limited slope (very limited) surface stones (limited) large surface stones (moderately limited)	1.00  0.66  0.52
Bender-----	Moderately limited surface stones (moderately limited) slope (slightly limited) large stones (slightly limited)	0.41  0.20  0.19	Very limited slope (very limited) surface stones (limited) large stones (moderately limited)	1.00  0.78  0.48	Limited slope (limited)	0.79	Limited slope (limited) large stones (slightly limited)	0.79  0.19	Very limited slope (very limited) slippage potential (moderately limited) surface stones (moderately limited)	1.00  0.50  0.41

Table 8a.--Forestland Management--Continued

Map symbol and soil name	Hand planting		Mechanical planting		Use of harvesting equipment		Mechanical site preparation (surface)		Roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73230: Gatewood-----	Very limited small stones (very limited) very sandy (surface) (moderately limited) slope (moderately limited)	1.00 0.50 0.37	Very limited slope (very limited) small stones (very limited) very sandy (surface) (moderately limited)	1.00 1.00 0.50	Very limited slope (very limited) very sandy (surface) (moderately limited) seasonal wetness (slightly limited)	1.00 0.50 0.15	Very limited small stones (very limited) slope (very limited) seasonal wetness (slightly limited)	1.00 1.00 0.15	Very limited slope (very limited) very sandy (surface) (moderately limited) seasonal wetness (slightly limited)	1.00 0.50 0.15
73231: Wasola-----	Limited small stones (limited)	0.73	Limited small stones (limited)	0.73	Moderately limited low strength (moderately limited) seasonal wetness (slightly limited)	0.50 0.20	Limited small stones (limited) seasonal wetness (slightly limited)	0.73 0.20	Moderately limited slippage potential (moderately limited) low strength (moderately limited) seasonal wetness (slightly limited)	0.50 0.50 0.20
73232: Alred-----	Slightly limited small stones (slightly limited)	0.24	Slightly limited small stones (slightly limited)	0.24	Not limited		Slightly limited small stones (slightly limited)	0.01	Moderately limited slippage potential (moderately limited)	0.50
Ocie-----	Slightly limited small stones (slightly limited)	0.08	Slightly limited small stones (slightly limited)	0.08	Slightly limited seasonal wetness (slightly limited)	0.10	Slightly limited seasonal wetness (slightly limited)	0.10	Moderately limited slippage potential (moderately limited) seasonal wetness (slightly limited)	0.50 0.10
73233: Alred-----	Slightly limited small stones (slightly limited)	0.24	Moderately limited slope (moderately limited) small stones (slightly limited)	0.47 0.24	Not limited		Slightly limited small stones (slightly limited)	0.01	Limited slope (limited) slippage potential (moderately limited)	0.76 0.50
Ocie-----	Slightly limited small stones (slightly limited)	0.08	Moderately limited slope (moderately limited) small stones (slightly limited)	0.47 0.08	Slightly limited seasonal wetness (slightly limited)	0.10	Slightly limited seasonal wetness (slightly limited)	0.10	Limited slope (limited) slippage potential (moderately limited) seasonal wetness (slightly limited)	0.76 0.50 0.10

Table 8a.--Forestland Management--Continued

Map symbol and soil name	Hand planting		Mechanical planting		Use of harvesting equipment		Mechanical site preparation (surface)		Roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73234: Alred-----	Limited large stones (limited) very sandy (surface) (moderately limited) slope (slightly limited)	0.61 0.50 0.14	Limited large stones >35% (very limited) slope (limited) very sandy (surface) (moderately limited)	0.99 0.99 0.50	Moderately limited slope (moderately limited) very sandy (surface) (moderately limited)	0.60 0.50	Limited large stones (limited) slope (moderately limited)	0.61 0.60	Very limited slope (very limited) very sandy (surface) (moderately limited)	1.00 0.50
Gatewood-----	Moderately limited small stones (moderately limited) slope (slightly limited)	0.51 0.25	Very limited slope (very limited) small stones (moderately limited)	1.00 0.51	Limited slope (limited) seasonal wetness (slightly limited)	0.91 0.15	Limited slope (limited) small stones (moderately limited) seasonal wetness (slightly limited)	0.91 0.45 0.15	Very limited slope (very limited) seasonal wetness (slightly limited)	1.00 0.15
73235: Alred-----	Limited small stones (limited) slope (slightly limited)	0.86 0.16	Very limited slope (very limited) small stones (limited)	1.00 0.86	Limited slope (limited)	0.68	Limited small stones (limited) slope (limited)	0.87 0.68	Very limited slope (very limited)	1.00
73236: Scholten-----	Slightly limited small stones (slightly limited)	0.15	Slightly limited small stones (slightly limited) slope (slightly limited)	0.15 0.10	Slightly limited seasonal wetness (slightly limited)	0.28	Slightly limited seasonal wetness (slightly limited)	0.28	Slightly limited seasonal wetness (slightly limited)	0.28
Poynor-----	Limited small stones (limited)	0.67	Limited small stones (limited) surface stones (slightly limited)	0.67 0.15	Not limited		Limited small stones (limited)	0.67	Not Limited	
73237: Clarksville---	Moderately limited small stones (moderately limited)	0.53	Moderately limited small stones (moderately limited) surface stones (moderately limited) slope (moderately limited)	0.53 0.45 0.34	Not limited		Moderately limited small stones (moderately limited)	0.49	Moderately limited slippage potential (moderately limited) slope (moderately limited)	0.50 0.45

Table 8a.--Forestland Management--Continued

Map symbol and soil name	Hand planting		Mechanical planting		Use of harvesting equipment		Mechanical site preparation (surface)		Roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73239: Rueter-----	Moderately limited small stones (moderately limited) slope (slightly limited)	0.53 0.14	Limited slope (limited) small stones (moderately limited) surface stones (moderately limited)	0.99 0.53 0.45	Moderately limited slope (moderately limited)	0.60	Moderately limited slope (moderately limited) small stones (moderately limited)	0.60 0.49	Very limited slope (very limited) slippage potential (moderately limited)	1.00 0.50
Rock outcrop--	Not rated		Not rated		Not rated		Not rated		Not rated	
73240: Jerktail-----	Not limited		Not limited		Moderately limited low strength (moderately limited) seasonal wetness (slightly limited)	0.50 0.20	Slightly limited seasonal wetness (slightly limited)	0.20	Moderately limited low strength (moderately limited) seasonal wetness (slightly limited)	0.50 0.20
73242: Fanchon-----	Not limited		Not limited		Moderately limited low strength (moderately limited)	0.50	Not limited		Moderately limited low strength (moderately limited)	0.50
Tonti-----	Not limited		Not limited		Moderately limited low strength (moderately limited) seasonal wetness (slightly limited)	0.50 0.27	Slightly limited seasonal wetness (slightly limited)	0.27	Moderately limited low strength (moderately limited) seasonal wetness (slightly limited)	0.50 0.27
73243: Topazmill-----	Not limited		Not limited		Moderately limited low strength (moderately limited)	0.50	Not limited		Moderately limited low strength (moderately limited)	0.50
73245: Alred-----	Moderately limited small stones (moderately limited)	0.42	Moderately limited small stones (moderately limited)	0.42	Not limited		Slightly limited small stones (slightly limited)	0.30	Moderately limited slippage potential (moderately limited)	0.50
73246: Alred-----	Moderately limited small stones (moderately limited)	0.60	Moderately limited small stones (moderately limited) slope (moderately limited)	0.60 0.47	Not limited		Moderately limited small stones (moderately limited)	0.60	Limited slope (limited) slippage potential (moderately limited)	0.76 0.50

Table 8a.--Forestland Management--Continued

Map symbol and soil name	Hand planting		Mechanical planting		Use of harvesting equipment		Mechanical site preparation (surface)		Roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73247: Alred-----	Limited small stones (limited) very sandy (surface) (moderately limited) slope (slightly limited)	0.89 0.50 0.14	Limited slope (limited) small stones (limited) very sandy (surface) (moderately limited)	0.99 0.89 0.50	Moderately limited slope (moderately limited) very sandy (surface) (moderately limited)	0.60 0.50	Limited small stones (limited) slope (moderately limited)	0.90 0.60	Very limited slope (very limited) very sandy (surface) (moderately limited)	1.00 0.50
73248: Alred-----	Limited large stones (limited) very sandy (surface) (moderately limited) small stones (slightly limited)	0.61 0.50 0.13	Limited large stones >35% (very limited) very sandy (surface) (moderately limited) slope (moderately limited)	0.99 0.50 0.47	Moderately limited very sandy (surface) (moderately limited)	0.50	Limited large stones (limited)	0.61	Limited slope (limited) very sandy (surface) (moderately limited)	0.76 0.50
Bendavis-----	Moderately limited small stones (moderately limited)	0.60	Moderately limited small stones (moderately limited) slope (moderately limited) surface stones (slightly limited)	0.60 0.47 0.02	Slightly limited seasonal wetness (slightly limited)	0.10	Moderately limited small stones (moderately limited) seasonal wetness (slightly limited)	0.60 0.10	Limited slope (limited) seasonal wetness (slightly limited)	0.76 0.10
73249: Alred-----	Limited large stones (limited) very sandy (surface) (moderately limited) slope (slightly limited)	0.61 0.50 0.14	Limited large stones >35% (very limited) slope (limited) very sandy (surface) (moderately limited)	0.99 0.99 0.50	Moderately limited slope (moderately limited) very sandy (surface) (moderately limited)	0.60 0.50	Limited large stones (limited) slope (moderately limited)	0.61 0.60	Very limited slope (very limited) very sandy (surface) (moderately limited)	1.00 0.50
Ocie-----	Moderately limited small stones (moderately limited) slope (slightly limited)	0.42 0.14	Limited slope (limited) small stones (moderately limited) surface stones (moderately limited)	0.99 0.42 0.38	Moderately limited slope (moderately limited) seasonal wetness (slightly limited)	0.60 0.10	Moderately limited slope (moderately limited) small stones (slightly limited) seasonal wetness (slightly limited)	0.60 0.30 0.10	Very limited slope (very limited) slippage potential (moderately limited) seasonal wetness (slightly limited)	1.00 0.50 0.10



Table 8a.--Forestland Management--Continued

Map symbol and soil name	Hand planting		Mechanical planting		Use of harvesting equipment		Mechanical site preparation (surface)		Roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73249: Bendavis-----	Limited small stones (limited) slope (slightly limited)	0.67 0.25	Very limited slope (very limited) small stones (limited) surface stones (moderately limited)	1.00 0.67 0.38	Limited slope (limited) seasonal wetness (slightly limited)	0.91 0.10	Limited slope (limited) small stones (limited) seasonal wetness (slightly limited)	0.91 0.67 0.10	Very limited slope (very limited) seasonal wetness (slightly limited)	1.00 0.10
74626: Tanglenook----	Moderately limited seasonal wetness (moderately limited)	0.60	Moderately limited seasonal wetness (moderately limited)	0.60	Limited seasonal wetness (limited) low strength (moderately limited)	0.76 0.50	Limited seasonal wetness (limited)	0.76	Limited seasonal wetness (limited) low strength (moderately limited)	0.76 0.50
74657: Pomme-----	Not limited		Not limited		Moderately limited low strength (moderately limited)	0.50	Not limited		Moderately limited slippage potential (moderately limited) low strength (moderately limited)	0.50 0.50
74658: Zanoni-----	Not limited		Not limited		Not limited		Not limited		Not Limited	
75382: Cedargap-----	Slightly limited small stones (slightly limited)	0.08	Slightly limited small stones (slightly limited)	0.08	Not limited		Not limited		Very limited flooding (very limited)	1.00
75390: Razort-----	Not limited		Not limited		Moderately limited low strength (moderately limited)	0.50	Not limited		Moderately limited low strength (moderately limited)	0.50
75406: Racket-----	Not limited		Not limited		Moderately limited low strength (moderately limited)	0.50	Not limited		Very limited flooding (very limited) low strength (moderately limited)	1.00 0.50

Table 8a.--Forestland Management--Continued

Map symbol and soil name	Hand planting		Mechanical planting		Use of harvesting equipment		Mechanical site preparation (surface)		Roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
75417: Relfe-----	Moderately limited small stones (moderately limited) very sandy (surface) (moderately limited)	0.56 0.50	Moderately limited small stones (moderately limited) very sandy (surface) (moderately limited)	0.56 0.50	Moderately limited very sandy (surface) (moderately limited)	0.50	Moderately limited small stones (moderately limited)	0.53	Very limited flooding (very limited) very sandy (surface) (moderately limited)	1.00 0.50
Sandbur-----	Not limited		Not limited		Not limited		Not limited		Very limited flooding (very limited)	1.00
75422: Secesh-----	Not limited		Not limited		Moderately limited low strength (moderately limited)	0.50	Not limited		Moderately limited flooding (moderately limited) low strength (moderately limited)	0.60 0.50
75423: Cedargap-----	Moderately limited small stones (moderately limited)	0.60	Moderately limited small stones (moderately limited)	0.60	Not limited		Moderately limited small stones (moderately limited)	0.60	Moderately limited flooding (moderately limited)	0.60
75424: Sandbur-----	Not limited		Not limited		Not limited		Not limited		Very limited flooding (very limited)	1.00
99001: Water-----	Not rated		Not rated		Not rated		Not rated		Not rated	
99002: Borrow areas--	Not rated		Not rated		Not rated		Not rated		Not rated	

Table 8b.--Forestland Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Erosion on roads and trails		Off-road or off-trail erosion		Soil rutting		Log landings		Seedling survival	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
70026: Tonti-----	Slightly limited slope/erodibility (slightly limited)	0.22	Slightly limited slope/erodibility (slightly limited)	0.05	Limited low strength (limited) seasonal wetness (slightly limited)	0.80 0.20	Moderately limited low strength (moderately limited) seasonal wetness (slightly limited)	0.50 0.20	Not limited	
73000: Pomme-----	Moderately limited slope/erodibility (moderately limited)	0.44	Slightly limited slope/erodibility (slightly limited)	0.10	Limited low strength (limited)	0.80	Moderately limited slippage potential (moderately limited) low strength (moderately limited)	0.50 0.50	Not limited	
73015: Viraton-----	Slightly limited slope/erodibility (slightly limited)	0.22	Slightly limited slope/erodibility (slightly limited)	0.05	Limited seasonal wetness (limited) low strength (limited)	0.85 0.80	Limited seasonal wetness (limited) low strength (moderately limited)	0.85 0.50	Limited seasonal wetness (limited)	0.85
73017: Bendavis-----	Very limited slope/erodibility (very limited)	1.00	Limited slope/erodibility (limited)	0.65	Slightly limited seasonal wetness (slightly limited)	0.10	Very limited slope (very limited) seasonal wetness (slightly limited)	1.00 0.10	Slightly limited soil reaction (slightly limited)	0.18
Poynor-----	Very limited slope/erodibility (very limited)	1.00	Moderately limited slope/erodibility (moderately limited)	0.49	Not limited		Very limited slope (very limited)	1.00	Limited droughty (limited)	0.84
73019: Poynor-----	Limited slope/erodibility (limited)	0.67	Slightly limited slope/erodibility (slightly limited)	0.12	Not limited		Not limited		Limited droughty (limited)	0.84

Table 8b.--Forestland Management--Continued

Map symbol and soil name	Erosion on roads and trails		Off-road or off-trail erosion		Soil rutting		Log landings		Seedling survival	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73023:										
Mano-----	Moderately limited slope/erodibility (moderately limited)	0.56	Slightly limited slope/erodibility (slightly limited)	0.10	Limited low strength (limited) seasonal wetness (slightly limited)	0.80 0.10	Moderately limited slippage potential (moderately limited) low strength (moderately limited) seasonal wetness (slightly limited)	0.50 0.50 0.10	Not limited	
Ocie-----	Moderately limited slope/erodibility (moderately limited)	0.56	Slightly limited slope/erodibility (slightly limited)	0.10	Slightly limited seasonal wetness (slightly limited)	0.10	Moderately limited slippage potential (moderately limited) seasonal wetness (slightly limited)	0.50 0.10	Not limited	
73024:										
Mano-----	Very limited slope/erodibility (very limited)	1.00	Slightly limited slope/erodibility (slightly limited)	0.24	Slightly limited seasonal wetness (slightly limited)	0.10	Limited slope (limited) slippage potential (moderately limited) seasonal wetness (slightly limited)	0.76 0.50 0.10	Not limited	
Ocie-----	Very limited slope/erodibility (very limited)	1.00	Slightly limited slope/erodibility (slightly limited)	0.24	Slightly limited seasonal wetness (slightly limited)	0.10	Limited slope (limited) slippage potential (moderately limited) seasonal wetness (slightly limited)	0.76 0.50 0.10	Not limited	
73069:										
Tick-----	Very limited slope/erodibility (very limited)	1.00	Moderately limited slope/erodibility (moderately limited)	0.49	Not limited		Very limited slope (very limited) slippage potential (limited) very sandy (surface) (moderately limited)	1.00 0.90 0.50	Not limited	

Table 8b.--Forestland Management--Continued

Map symbol and soil name	Erosion on roads and trails		Off-road or off-trail erosion		Soil rutting		Log landings		Seedling survival	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73073: Scholten-----	Very limited slope/erodibility (very limited)	1.00	Slightly limited slope/erodibility (slightly limited)	0.24	Slightly limited seasonal wetness (slightly limited)	0.28	Limited slope (limited) seasonal wetness (slightly limited)	0.76 0.28	Not limited	
Poynor-----	Very limited slope/erodibility (very limited)	1.00	Slightly limited slope/erodibility (slightly limited)	0.24	Not limited		Limited slope (limited)	0.76	Limited droughty (limited)	0.84
73076: Mano-----	Very limited slope/erodibility (very limited)	1.00	Moderately limited slope/erodibility (moderately limited)	0.49	Slightly limited seasonal wetness (slightly limited)	0.10	Very limited slope (very limited) slippage potential (moderately limited) seasonal wetness (slightly limited)	1.00 0.50 0.10	Not limited	
Ocie-----	Very limited slope/erodibility (very limited)	1.00	Moderately limited slope/erodibility (moderately limited)	0.49	Slightly limited seasonal wetness (slightly limited)	0.10	Very limited slope (very limited) slippage potential (moderately limited) seasonal wetness (slightly limited)	1.00 0.50 0.10	Not limited	
73198: Gressy-----	Moderately limited slope/erodibility (moderately limited)	0.44	Slightly limited slope/erodibility (slightly limited)	0.10	Limited low strength (limited)	0.80	Moderately limited low strength (moderately limited)	0.50	Not limited	
Viraton-----	Moderately limited slope/erodibility (moderately limited)	0.44	Slightly limited slope/erodibility (slightly limited)	0.10	Limited low strength (limited) seasonal wetness (slightly limited)	0.80 0.20	Moderately limited low strength (moderately limited) seasonal wetness (slightly limited)	0.50 0.20	Not limited	
73199: Moko-----	Moderately limited slope/erodibility (moderately limited)	0.56	Slightly limited slope/erodibility (slightly limited)	0.18	Not limited		Moderately limited slippage potential (moderately limited) slope (moderately limited)	0.50 0.45	Limited droughty (limited)	0.90



Table 8b.--Forestland Management--Continued

Map symbol and soil name	Erosion on roads and trails		Off-road or off-trail erosion		Soil rutting		Log landings		Seedling survival	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73199: Rock outcrop--	Not rated		Not rated		Not rated		Not rated		Not rated	
73220: Poynor-----	Very limited slope/erodibility (very limited)	1.00	Slightly limited slope/erodibility (slightly limited)	0.24	Not limited		Limited slope (limited) very sandy (surface) (moderately limited)	0.76 0.50	Limited droughty (limited)	0.84
73221: Poynor-----	Very limited slope/erodibility (very limited)	1.00	Slightly limited slope/erodibility (slightly limited)	0.29	Not limited		Limited slope (limited)	0.99	Limited droughty (limited)	0.84
73222: Splitlimb----	Slightly limited slope/erodibility (slightly limited)	0.22	Slightly limited slope/erodibility (slightly limited)	0.05	Limited low strength (limited) seasonal wetness (slightly limited)	0.80 0.26	Limited seasonally ponded (limited) low strength (moderately limited) seasonal wetness (slightly limited)	0.80 0.50 0.26	Not limited	
73223: Coulstone-----	Very limited slope/erodibility (very limited)	1.00	Moderately limited slope/erodibility (moderately limited)	0.49	Not limited		Very limited slope (very limited) surface stones (limited) large surface stones (moderately limited)	1.00 0.66 0.52	Very limited droughty (very limited)	1.00
Bender-----	Very limited slope/erodibility (very limited)	1.00	Moderately limited slope/erodibility (moderately limited)	0.59	Not limited		Very limited slope (very limited) slippage potential (moderately limited) very sandy (surface) (moderately limited)	1.00 0.50 0.50	Very limited droughty (very limited)	1.00

Table 8b.--Forestland Management--Continued

Map symbol and soil name	Erosion on roads and trails		Off-road or off-trail erosion		Soil rutting		Log landings		Seedling survival	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73224: Moko-----	Very limited slope/erodibility (very limited)	1.00	Moderately limited slope/erodibility (moderately limited)	0.49	Not limited		Very limited slope (very limited) slippage potential (moderately limited)	1.00 0.50	Limited droughty (limited)	0.90
Rock outcrop--	Not rated		Not rated		Not rated		Not rated		Not rated	
73225: Ocie-----	Limited slope/erodibility (limited)	0.67	Slightly limited slope/erodibility (slightly limited)	0.12	Slightly limited seasonal wetness (slightly limited)	0.10	Moderately limited slippage potential (moderately limited) seasonal wetness (slightly limited)	0.50 0.10	Not limited	
Gatewood-----	Limited slope/erodibility (limited)	0.67	Slightly limited slope/erodibility (slightly limited)	0.12	Slightly limited seasonal wetness (slightly limited)	0.15	Slightly limited seasonal wetness (slightly limited)	0.15	Not limited	
73226: Ocie-----	Very limited slope/erodibility (very limited)	1.00	Slightly limited slope/erodibility (slightly limited)	0.18	Slightly limited seasonal wetness (slightly limited)	0.10	Moderately limited slippage potential (moderately limited) slope (moderately limited) seasonal wetness (slightly limited)	0.50 0.45 0.10	Not limited	
Gatewood-----	Very limited slope/erodibility (very limited)	1.00	Slightly limited slope/erodibility (slightly limited)	0.18	Slightly limited seasonal wetness (slightly limited)	0.15	Moderately limited slope (moderately limited) seasonal wetness (slightly limited)	0.45 0.15	Not limited	
73227: Ocie-----	Very limited slope/erodibility (very limited)	1.00	Limited slope/erodibility (limited)	0.65	Limited low strength (limited) seasonal wetness (slightly limited)	0.80 0.10	Very limited slope (very limited) slippage potential (moderately limited) low strength (moderately limited)	1.00 0.50 0.50	Not limited	

Table 8b.--Forestland Management--Continued

Map symbol and soil name	Erosion on roads and trails		Off-road or off-trail erosion		Soil rutting		Log landings		Seedling survival	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73227: Gatewood-----	Very limited slope/erodibility (very limited)	1.00	Limited slope/erodibility (limited)	0.65	Slightly limited seasonal wetness (slightly limited)	0.15	Very limited slope (very limited) seasonal wetness (slightly limited)	1.00 0.15	Not limited	
73228: Gatewood-----	Very limited slope/erodibility (very limited)	1.00	Slightly limited slope/erodibility (slightly limited)	0.18	Slightly limited seasonal wetness (slightly limited)	0.15	Moderately limited slope (moderately limited) seasonal wetness (slightly limited)	0.45 0.15	Not limited	
Moko-----	Moderately limited slope/erodibility (moderately limited)	0.56	Slightly limited slope/erodibility (slightly limited)	0.18	Not limited		Moderately limited slippage potential (moderately limited) slope (moderately limited)	0.50 0.45	Limited droughty (limited)	0.90
73229: Gatewood-----	Very limited slope/erodibility (very limited)	1.00	Moderately limited slope/erodibility (moderately limited)	0.49	Slightly limited seasonal wetness (slightly limited)	0.15	Very limited slope (very limited) seasonal wetness (slightly limited)	1.00 0.15	Not limited	
Moko-----	Very limited slope/erodibility (very limited)	1.00	Moderately limited slope/erodibility (moderately limited)	0.49	Not limited		Very limited slope (very limited) slippage potential (moderately limited)	1.00 0.50	Limited droughty (limited)	0.90
73230: Coulstone-----	Very limited slope/erodibility (very limited)	1.00	Moderately limited slope/erodibility (moderately limited)	0.49	Not limited		Very limited slope (very limited) surface stones (limited) large surface stones (moderately limited)	1.00 0.66 0.52	Very limited droughty (very limited)	1.00

Table 8b.--Forestland Management--Continued

Map symbol and soil name	Erosion on roads and trails		Off-road or off-trail erosion		Soil rutting		Log landings		Seedling survival	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73230: Bender-----	Very limited slope/erodibility (very limited)	1.00	Moderately limited slope/erodibility (moderately limited)	0.59	Not limited		Very limited slope (very limited) slippage potential (moderately limited) surface stones (moderately limited)	1.00 0.50 0.41	Very limited droughty (very limited)	1.00
Gatewood-----	Very limited slope/erodibility (very limited)	1.00	Limited slope/erodibility (limited)	0.78	Slightly limited seasonal wetness (slightly limited)	0.15	Very limited slope (very limited) very sandy (surface) (moderately limited) seasonal wetness (slightly limited)	1.00 0.50 0.15	Not limited	
73231: Wasola-----	Moderately limited slope/erodibility (moderately limited)	0.44	Slightly limited slope/erodibility (slightly limited)	0.08	Limited low strength (limited) seasonal wetness (slightly limited)	0.80 0.20	Moderately limited slippage potential (moderately limited) low strength (moderately limited) seasonal wetness (slightly limited)	0.50 0.50 0.20	Not limited	
73232: Alred-----	Moderately limited slope/erodibility (moderately limited)	0.56	Slightly limited slope/erodibility (slightly limited)	0.10	Not limited		Moderately limited slippage potential (moderately limited)	0.50	Not limited	
Ocie-----	Moderately limited slope/erodibility (moderately limited)	0.56	Slightly limited slope/erodibility (slightly limited)	0.10	Slightly limited seasonal wetness (slightly limited)	0.10	Moderately limited slippage potential (moderately limited) seasonal wetness (slightly limited)	0.50 0.10	Not limited	
73233: Alred-----	Very limited slope/erodibility (very limited)	1.00	Slightly limited slope/erodibility (slightly limited)	0.24	Not limited		Limited slope (limited) slippage potential (moderately limited)	0.76 0.50	Not limited	

Table 8b.--Forestland Management--Continued

Map symbol and soil name	Erosion on roads and trails		Off-road or off-trail erosion		Soil rutting		Log landings		Seedling survival	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73233: Ocie-----	Very limited slope/erodibility (very limited)	1.00	Slightly limited slope/erodibility (slightly limited)	0.24	Slightly limited seasonal wetness (slightly limited)	0.10	Limited slope (limited) slippage potential (moderately limited) seasonal wetness (slightly limited)	0.76 0.50 0.10	Not limited	
73234: Alred-----	Limited slope/erodibility (limited)	0.96	Moderately limited slope/erodibility (moderately limited)	0.49	Not limited		Very limited slope (very limited) very sandy (surface) (moderately limited)	1.00 0.50	Slightly limited droughty (slightly limited)	0.12
Gatewood-----	Very limited slope/erodibility (very limited)	1.00	Limited slope/erodibility (limited)	0.65	Slightly limited seasonal wetness (slightly limited)	0.15	Very limited slope (very limited) seasonal wetness (slightly limited)	1.00 0.15	Not limited	
73235: Alred-----	Very limited slope/erodibility (very limited)	1.00	Moderately limited slope/erodibility (moderately limited)	0.53	Not limited		Very limited slope (very limited)	1.00	Slightly limited droughty (slightly limited)	0.12
73236: Scholten-----	Limited slope/erodibility (limited)	0.67	Slightly limited slope/erodibility (slightly limited)	0.12	Slightly limited seasonal wetness (slightly limited)	0.28	Slightly limited seasonal wetness (slightly limited)	0.28	Not limited	
Poynor-----	Moderately limited slope/erodibility (moderately limited)	0.56	Slightly limited slope/erodibility (slightly limited)	0.10	Not limited		Not limited		Not limited	
73237: Clarksville---	Very limited slope/erodibility (very limited)	1.00	Slightly limited slope/erodibility (slightly limited)	0.18	Not limited		Moderately limited slippage potential (moderately limited) slope (moderately limited)	0.50 0.45	Slightly limited droughty (slightly limited) soil reaction (slightly limited)	0.19 0.18



Table 8b.--Forestland Management--Continued

Map symbol and soil name	Erosion on roads and trails		Off-road or off-trail erosion		Soil rutting		Log landings		Seedling survival	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73239: Rueter-----	Very limited slope/erodibility (very limited)	1.00	Moderately limited slope/erodibility (moderately limited)	0.49	Not limited		Very limited slope (very limited) slippage potential (moderately limited)	1.00 0.50	Slightly limited droughty (slightly limited) soil reaction (slightly limited)	0.19 0.18
Rock outcrop--	Not rated		Not rated		Not rated		Not rated		Not rated	
73240: Jerktail-----	Moderately limited slope/erodibility (moderately limited)	0.56	Slightly limited slope/erodibility (slightly limited)	0.12	Limited low strength (limited) seasonal wetness (slightly limited)	0.80 0.20	Moderately limited low strength (moderately limited) seasonal wetness (slightly limited)	0.50 0.20	Not limited	
73242: Fanchon-----	Moderately limited slope/erodibility (moderately limited)	0.44	Slightly limited slope/erodibility (slightly limited)	0.08	Limited low strength (limited)	0.80	Moderately limited low strength (moderately limited)	0.50	Not limited	
Tonti-----	Moderately limited slope/erodibility (moderately limited)	0.44	Slightly limited slope/erodibility (slightly limited)	0.10	Limited low strength (limited) seasonal wetness (slightly limited)	0.80 0.27	Moderately limited low strength (moderately limited) seasonal wetness (slightly limited)	0.50 0.27	Not limited	
73243: Topazmill-----	Moderately limited slope/erodibility (moderately limited)	0.44	Slightly limited slope/erodibility (slightly limited)	0.08	Limited low strength (limited)	0.80	Moderately limited low strength (moderately limited)	0.50	Not limited	
73245: Alred-----	Moderately limited slope/erodibility (moderately limited)	0.56	Slightly limited slope/erodibility (slightly limited)	0.10	Not limited		Moderately limited slippage potential (moderately limited)	0.50	Not limited	
73246: Alred-----	Very limited slope/erodibility (very limited)	1.00	Slightly limited slope/erodibility (slightly limited)	0.24	Not limited		Limited slope (limited) slippage potential (moderately limited)	0.76 0.50	Not limited	

Table 8b.--Forestland Management--Continued

Map symbol and soil name	Erosion on roads and trails		Off-road or off-trail erosion		Soil rutting		Log landings		Seedling survival	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73247: Alred-----	Very limited slope/erodibility (very limited)	1.00	Moderately limited slope/erodibility (moderately limited)	0.49	Not limited		Very limited slope (very limited) very sandy (surface) (moderately limited)	1.00 0.50	Slightly limited droughty (slightly limited)	0.12
73248: Alred-----	Moderately limited slope/erodibility (moderately limited)	0.46	Slightly limited slope/erodibility (slightly limited)	0.24	Not limited		Limited slope (limited) very sandy (surface) (moderately limited)	0.76 0.50	Slightly limited droughty (slightly limited)	0.12
Bendavis-----	Limited slope/erodibility (limited)	0.75	Slightly limited slope/erodibility (slightly limited)	0.24	Slightly limited seasonal wetness (slightly limited)	0.10	Limited slope (limited) seasonal wetness (slightly limited)	0.76 0.10	Not limited	
73249: Alred-----	Limited slope/erodibility (limited)	0.96	Moderately limited slope/erodibility (moderately limited)	0.49	Not limited		Very limited slope (very limited) very sandy (surface) (moderately limited)	1.00 0.50	Slightly limited droughty (slightly limited)	0.12
Ocie-----	Very limited slope/erodibility (very limited)	1.00	Moderately limited slope/erodibility (moderately limited)	0.49	Slightly limited seasonal wetness (slightly limited)	0.10	Very limited slope (very limited) slippage potential (moderately limited) seasonal wetness (slightly limited)	1.00 0.50 0.10	Not limited	
Bendavis-----	Very limited slope/erodibility (very limited)	1.00	Limited slope/erodibility (limited)	0.65	Slightly limited seasonal wetness (slightly limited)	0.10	Very limited slope (very limited) seasonal wetness (slightly limited)	1.00 0.10	Not limited	

Table 8b.--Forestland Management--Continued

Map symbol and soil name	Erosion on roads and trails		Off-road or off-trail erosion		Soil rutting		Log landings		Seedling survival	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
74626: Tanglenook----	Slightly limited slope/erodibility (slightly limited)	0.22	Slightly limited slope/erodibility (slightly limited)	0.05	Limited low strength (limited) seasonal wetness (limited)	0.80 0.76	Limited seasonal wetness (limited) low strength (moderately limited)	0.76 0.50	Limited seasonal wetness (limited)	0.76
74657: Pomme-----	Moderately limited slope/erodibility (moderately limited)	0.56	Slightly limited slope/erodibility (slightly limited)	0.10	Limited low strength (limited)	0.80	Moderately limited slippage potential (moderately limited) low strength (moderately limited)	0.50 0.50	Not limited	
74658: Zanoni-----	Slightly limited slope/erodibility (slightly limited)	0.11	Slightly limited slope/erodibility (slightly limited)	0.02	Moderately limited low strength (moderately limited)	0.50	Not limited		Not limited	
75382: Cedargap-----	Slightly limited slope/erodibility (slightly limited)	0.22	Slightly limited slope/erodibility (slightly limited)	0.04	Moderately limited low strength (moderately limited)	0.50	Very limited flooding (very limited)	1.00	Limited flooding (limited)	0.90
75390: Razort-----	Slightly limited slope/erodibility (slightly limited)	0.22	Slightly limited slope/erodibility (slightly limited)	0.05	Limited low strength (limited)	0.80	Moderately limited low strength (moderately limited)	0.50	Not limited	
75406: Racket-----	Slightly limited slope/erodibility (slightly limited)	0.22	Slightly limited slope/erodibility (slightly limited)	0.04	Limited low strength (limited)	0.80	Very limited flooding (very limited) low strength (moderately limited)	1.00 0.50	Limited flooding (limited)	0.90
75417: Relfe-----	Slightly limited slope/erodibility (slightly limited)	0.08	Slightly limited slope/erodibility (slightly limited)	0.04	Not limited		Very limited flooding (very limited) very sandy (surface) (moderately limited)	1.00 0.50	Very limited droughty (very limited) flooding (limited)	1.00 0.90

Table 8b.--Forestland Management--Continued

Map symbol and soil name	Erosion on roads and trails		Off-road or off-trail erosion		Soil rutting		Log landings		Seedling survival	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
75417: Sandbur-----	Slightly limited slope/erodibility (slightly limited)	0.22	Slightly limited slope/erodibility (slightly limited)	0.04	Moderately limited low strength (moderately limited)	0.50	Very limited flooding (very limited)	1.00	Limited flooding (limited)	0.90
75422: Secesh-----	Slightly limited slope/erodibility (slightly limited)	0.11	Slightly limited slope/erodibility (slightly limited)	0.02	Limited low strength (limited)	0.80	Moderately limited flooding (moderately limited) low strength (moderately limited)	0.60 0.50	Moderately limited flooding (moderately limited)	0.60
75423: Cedargap-----	Slightly limited slope/erodibility (slightly limited)	0.11	Slightly limited slope/erodibility (slightly limited)	0.02	Not limited		Moderately limited flooding (moderately limited)	0.60	Moderately limited flooding (moderately limited)	0.60
75424: Sandbur-----	Slightly limited slope/erodibility (slightly limited)	0.22	Slightly limited slope/erodibility (slightly limited)	0.04	Moderately limited low strength (moderately limited)	0.50	Very limited flooding (very limited)	1.00	Limited flooding (limited)	0.90
99001: Water-----	Not rated		Not rated		Not rated		Not rated		Not rated	
99002: Borrow areas--	Not rated		Not rated		Not rated		Not rated		Not rated	

Table 9.--Windbreaks and Environmental Plantings

(Absence of an entry indicates that trees generally do not grow to the given height)

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
70026: Tonti-----	Coralberry; fragrant sumac; ninebark	Eastern redbud; eastern redcedar; flowering dogwood; gray dogwood	Common serviceberry; persimmon; post oak; red pine; shingle oak; shortleaf pine	Black oak; mockernut hickory; northern red oak; white ash	---
73000: Pomme-----	Coralberry; fragrant sumac; ninebark	Eastern redbud; eastern redcedar; flowering dogwood; gray dogwood	Common serviceberry; persimmon; post oak; red pine; shingle oak; shortleaf pine	Black oak; mockernut hickory; northern red oak; white ash	---
73015: Viraton-----	Coralberry; fragrant sumac; ninebark	Eastern redbud; eastern redcedar; flowering dogwood; gray dogwood	Common serviceberry; persimmon; post oak; red pine; shingle oak; shortleaf pine	Black oak; mockernut hickory; northern red oak; white ash	---
73017: Bendavis-----	Coralberry; fragrant sumac; ninebark	Eastern redbud; eastern redcedar; flowering dogwood; gray dogwood	Common serviceberry; persimmon; post oak; red pine; shingle oak; shortleaf pine	Black oak; mockernut hickory; northern red oak; white ash	---
Poynor-----	Common ninebark; fragrant sumac; St. Johnswort	Eastern redcedar; possumhaw; roughleaf dogwood; Washington hawthorn	Arborvitae; bur oak; green hawthorn; post oak	Austrian pine; common hackberry; green ash; honeylocust; pin oak	---
73019: Poynor-----	Common ninebark; fragrant sumac; St. Johnswort	Eastern redcedar; possumhaw; roughleaf dogwood; Washington hawthorn	Arborvitae; bur oak; green hawthorn; post oak	Austrian pine; common hackberry; green ash; honeylocust; pin oak	---



Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
73023:					
Mano-----	Common ninebark; fragrant sumac; St. Johnswort	Eastern redcedar; possumhaw; roughleaf dogwood; Washington hawthorn	Arborvitae; bur oak; green hawthorn; post oak	Austrian pine; common hackberry; green ash; honeylocust; pin oak	---
Ocie-----	Common ninebark; fragrant sumac; St. Johnswort	Eastern redcedar; possumhaw; roughleaf dogwood; Washington hawthorn	Arborvitae; bur oak; green hawthorn; post oak	Austrian pine; common hackberry; green ash; honeylocust; pin oak	---
73024:					
Mano-----	Common ninebark; fragrant sumac; St. Johnswort	Eastern redcedar; possumhaw; roughleaf dogwood; Washington hawthorn	Arborvitae; bur oak; green hawthorn; post oak	Austrian pine; common hackberry; green ash; honeylocust; pin oak	---
Ocie-----	Common ninebark; fragrant sumac; St. Johnswort	Eastern redcedar; possumhaw; roughleaf dogwood; Washington hawthorn	Arborvitae; bur oak; green hawthorn; post oak	Austrian pine; common hackberry; green ash; honeylocust; pin oak	---
73069:					
Tick-----	Coralberry; fragrant sumac; ninebark	Eastern redbud; eastern redcedar; flowering dogwood; gray dogwood	Common serviceberry; persimmon; post oak; red pine; shingle oak; shortleaf pine	Black oak; mockernut hickory; northern red oak; white ash	---
73073:					
Scholten-----	Coralberry; fragrant sumac; ninebark	Eastern redbud; eastern redcedar; flowering dogwood; gray dogwood	Common serviceberry; persimmon; post oak; red pine; shingle oak; shortleaf pine	Black oak; mockernut hickory; northern red oak; white ash	---
Poynor-----	Common ninebark; fragrant sumac; St. Johnswort	Eastern redcedar; possumhaw; roughleaf dogwood; Washington hawthorn	Arborvitae; bur oak; green hawthorn; post oak	Austrian pine; common hackberry; green ash; honeylocust; pin oak	---

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
73076: Mano-----	Common ninebark; fragrant sumac; St. Johnswort	Eastern redcedar; possumhaw; roughleaf dogwood; Washington hawthorn	Arborvitae; bur oak; green hawthorn; post oak	Austrian pine; common hackberry; green ash; honeylocust; pin oak	---
Ocie-----	Common ninebark; fragrant sumac; St. Johnswort	Eastern redcedar; possumhaw; roughleaf dogwood; Washington hawthorn	Arborvitae; bur oak; green hawthorn; post oak	Austrian pine; common hackberry; green ash; honeylocust; pin oak	---
73198: Gressy-----	Coralberry; fragrant sumac; ninebark	Eastern redbud; eastern redcedar; flowering dogwood; gray dogwood	Common serviceberry; persimmon; post oak; red pine; shingle oak; shortleaf pine	Black oak; mockernut hickory; northern red oak; white ash	---
Viraton-----	Coralberry; fragrant sumac; ninebark	Eastern redbud; eastern redcedar; flowering dogwood; gray dogwood	Common serviceberry; persimmon; post oak; red pine; shingle oak; shortleaf pine	Black oak; mockernut hickory; northern red oak; white ash	---
73199: Moko.  Rock outcrop.					
73220: Poynor-----	Common ninebark; fragrant sumac; St. Johnswort	Eastern redcedar; possumhaw; roughleaf dogwood; Washington hawthorn	Arborvitae; bur oak; green hawthorn; post oak	Austrian pine; common hackberry; green ash; honeylocust; pin oak	---
73221: Poynor-----	Common ninebark; fragrant sumac; St. Johnswort	Eastern redcedar; possumhaw; roughleaf dogwood; Washington hawthorn	Arborvitae; bur oak; green hawthorn; post oak	Austrian pine; common hackberry; green ash; honeylocust; pin oak	---

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
73222: Splitlimb-----	American hazelnut; Downy Arrowwood; fragrant sumac	American plum; blue spruce; eastern hophornbeam; eastern redbud; eastern redcedar; roughleaf dogwood	Arborvitae; common serviceberry; sugar maple; white oak	Northern red oak; tuliptree; white ash	Eastern white pine
73223: Coulstone-----	Coralberry; fragrant sumac; ninebark	Eastern redbud; eastern redcedar; flowering dogwood; gray dogwood	Common serviceberry; persimmon; post oak; red pine; shingle oak; shortleaf pine	Black oak; mockernut hickory; northern red oak; white ash	---
Bender-----	Coralberry; fragrant sumac; ninebark	Eastern redbud; eastern redcedar; flowering dogwood; gray dogwood	Common serviceberry; persimmon; post oak; red pine; shingle oak; shortleaf pine	Black oak; mockernut hickory; northern red oak; white ash	---
73224: Moko.  Rock outcrop.					
73225: Ocie-----	Common ninebark; fragrant sumac; St. Johnswort	Eastern redcedar; possumhaw; roughleaf dogwood; Washington hawthorn	Arborvitae; bur oak; green hawthorn; post oak	Austrian pine; common hackberry; green ash; honeylocust; pin oak	---
Gatewood-----	Common ninebark; fragrant sumac; St. Johnswort	Eastern redcedar; possumhaw; roughleaf dogwood; Washington hawthorn	Arborvitae; bur oak; green hawthorn; post oak	Austrian pine; common hackberry; green ash; honeylocust; pin oak	---
73226: Ocie-----	Common ninebark; fragrant sumac; St. Johnswort	Eastern redcedar; possumhaw; roughleaf dogwood; Washington hawthorn	Arborvitae; bur oak; green hawthorn; post oak	Austrian pine; common hackberry; green ash; honeylocust; pin oak	---

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
73226: Gatewood-----	Common ninebark; fragrant sumac; St. Johnswort	Eastern redcedar; possumhaw; roughleaf dogwood; Washington hawthorn	Arborvitae; bur oak; green hawthorn; post oak	Austrian pine; common hackberry; green ash; honeylocust; pin oak	---
73227: Ocie-----	Common ninebark; fragrant sumac; St. Johnswort	Eastern redcedar; possumhaw; roughleaf dogwood; Washington hawthorn	Arborvitae; bur oak; green hawthorn; post oak	Austrian pine; common hackberry; green ash; honeylocust; pin oak	---
Gatewood-----	Common ninebark; fragrant sumac; St. Johnswort	Eastern redcedar; possumhaw; roughleaf dogwood; Washington hawthorn	Arborvitae; bur oak; green hawthorn; post oak	Austrian pine; common hackberry; green ash; honeylocust; pin oak	---
73228: Gatewood-----	Common ninebark; fragrant sumac; St. Johnswort	Eastern redcedar; possumhaw; roughleaf dogwood; Washington hawthorn	Arborvitae; bur oak; green hawthorn; post oak	Austrian pine; common hackberry; green ash; honeylocust; pin oak	---
Moko.					
73229: Gatewood-----	Common ninebark; fragrant sumac; St. Johnswort	Eastern redcedar; possumhaw; roughleaf dogwood; Washington hawthorn	Arborvitae; bur oak; green hawthorn; post oak	Austrian pine; common hackberry; green ash; honeylocust; pin oak	---
Moko.					
73230: Coulstone-----	Coralberry; fragrant sumac; ninebark	Eastern redbud; eastern redcedar; flowering dogwood; gray dogwood	Common serviceberry; persimmon; post oak; red pine; shingle oak; shortleaf pine	Black oak; mockernut hickory; northern red oak; white ash	---

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
73230: Bender-----	Coralberry; fragrant sumac; ninebark	Eastern redbud; eastern redcedar; flowering dogwood; gray dogwood	Common serviceberry; persimmon; post oak; red pine; shingle oak; shortleaf pine	Black oak; mockernut hickory; northern red oak; white ash	---
Gatewood-----	Common ninebark; fragrant sumac; St. Johnswort	Eastern redcedar; possumhaw; roughleaf dogwood; Washington hawthorn	Arborvitae; bur oak; green hawthorn; post oak	Austrian pine; common hackberry; green ash; honeylocust; pin oak	---
73231: Wasola-----	Coralberry; fragrant sumac; ninebark	Eastern redbud; eastern redcedar; flowering dogwood; gray dogwood	Common serviceberry; persimmon; post oak; red pine; shingle oak; shortleaf pine	Black oak; mockernut hickory; northern red oak; white ash	---
73232: Alred-----	Coralberry; fragrant sumac; ninebark	Eastern redbud; eastern redcedar; flowering dogwood; gray dogwood	Common serviceberry; persimmon; post oak; red pine; shingle oak; shortleaf pine	Black oak; mockernut hickory; northern red oak; white ash	---
Ocie-----	Common ninebark; fragrant sumac; St. Johnswort	Eastern redcedar; possumhaw; roughleaf dogwood; Washington hawthorn	Arborvitae; bur oak; green hawthorn; post oak	Austrian pine; common hackberry; green ash; honeylocust; pin oak	---
73233: Alred-----	Coralberry; fragrant sumac; ninebark	Eastern redbud; eastern redcedar; flowering dogwood; gray dogwood	Common serviceberry; persimmon; post oak; red pine; shingle oak; shortleaf pine	Black oak; mockernut hickory; northern red oak; white ash	---
Ocie-----	Common ninebark; fragrant sumac; St. Johnswort	Eastern redcedar; possumhaw; roughleaf dogwood; Washington hawthorn	Arborvitae; bur oak; green hawthorn; post oak	Austrian pine; common hackberry; green ash; honeylocust; pin oak	---



Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
73234: Alred-----	Coralberry; fragrant sumac; ninebark	Eastern redbud; eastern redcedar; flowering dogwood; gray dogwood	Common serviceberry; persimmon; post oak; red pine; shingle oak; shortleaf pine	Black oak; mockernut hickory; northern red oak; white ash	---
Gatewood-----	Common ninebark; fragrant sumac; St. Johnswort	Eastern redcedar; possumhaw; roughleaf dogwood; Washington hawthorn	Arborvitae; bur oak; green hawthorn; post oak	Austrian pine; common hackberry; green ash; honeylocust; pin oak	---
73235: Alred-----	Coralberry; fragrant sumac; ninebark	Eastern redbud; eastern redcedar; flowering dogwood; gray dogwood	Common serviceberry; persimmon; post oak; red pine; shingle oak; shortleaf pine	Black oak; mockernut hickory; northern red oak; white ash	---
73236: Scholten-----	Coralberry; fragrant sumac; ninebark	Eastern redbud; eastern redcedar; flowering dogwood; gray dogwood	Common serviceberry; persimmon; post oak; red pine; shingle oak; shortleaf pine	Black oak; mockernut hickory; northern red oak; white ash	---
Poynor-----	Common ninebark; fragrant sumac; St. Johnswort	Eastern redcedar; possumhaw; roughleaf dogwood; Washington hawthorn	Arborvitae; bur oak; green hawthorn; post oak	Austrian pine; common hackberry; green ash; honeylocust; pin oak	---
73237: Clarksville-----	Coralberry; fragrant sumac; ninebark	Eastern redbud; eastern redcedar; flowering dogwood; gray dogwood	Common serviceberry; persimmon; post oak; red pine; shingle oak; shortleaf pine	Black oak; mockernut hickory; northern red oak; white ash	---
73239: Rueter-----	Coralberry; fragrant sumac; ninebark	Eastern redbud; eastern redcedar; flowering dogwood; gray dogwood	Common serviceberry; persimmon; post oak; red pine; shingle oak; shortleaf pine	Black oak; mockernut hickory; northern red oak; white ash	---
Rock outcrop.					

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
73240: Jerktail-----	Common ninebark; fragrant sumac; St. Johnswort	Eastern redcedar; possumhaw; roughleaf dogwood; Washington hawthorn	Arborvitae; bur oak; green hawthorn; post oak	Austrian pine; common hackberry; green ash; honeylocust; pin oak	---
73242: Fanchon-----	Common ninebark; fragrant sumac; St. Johnswort	Eastern redcedar; possumhaw; roughleaf dogwood; Washington hawthorn	Arborvitae; bur oak; green hawthorn; post oak	Austrian pine; common hackberry; green ash; honeylocust; pin oak	---
Tonti-----	Coralberry; fragrant sumac; ninebark	Eastern redbud; eastern redcedar; flowering dogwood; gray dogwood	Common serviceberry; persimmon; post oak; red pine; shingle oak; shortleaf pine	Black oak; mockernut hickory; northern red oak; white ash	---
73243: Topazmill-----	American hazelnut; coralberry; flameleaf sumac	American plum; blue spruce; eastern redcedar; gray dogwood; Washington hawthorn	Common serviceberry; persimmon; post oak; shingle oak	Austrian pine; black oak	---
73245: Alred-----	Coralberry; fragrant sumac; ninebark	Eastern redbud; eastern redcedar; flowering dogwood; gray dogwood	Common serviceberry; persimmon; post oak; red pine; shingle oak; shortleaf pine	Black oak; mockernut hickory; northern red oak; white ash	---
73246: Alred-----	Coralberry; fragrant sumac; ninebark	Eastern redbud; eastern redcedar; flowering dogwood; gray dogwood	Common serviceberry; persimmon; post oak; red pine; shingle oak; shortleaf pine	Black oak; mockernut hickory; northern red oak; white ash	---
73247: Alred-----	Coralberry; fragrant sumac; ninebark	Eastern redbud; eastern redcedar; flowering dogwood; gray dogwood	Common serviceberry; persimmon; post oak; red pine; shingle oak; shortleaf pine	Black oak; mockernut hickory; northern red oak; white ash	---

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
73248: Alred-----	Coralberry; fragrant sumac; ninebark	Eastern redbud; eastern redcedar; flowering dogwood; gray dogwood	Common serviceberry; persimmon; post oak; red pine; shingle oak; shortleaf pine	Black oak; mockernut hickory; northern red oak; white ash	---
Bendavis-----	Coralberry; fragrant sumac; ninebark	Eastern redbud; eastern redcedar; flowering dogwood; gray dogwood	Common serviceberry; persimmon; post oak; red pine; shingle oak; shortleaf pine	Black oak; mockernut hickory; northern red oak; white ash	---
73249: Alred-----	Coralberry; fragrant sumac; ninebark	Eastern redbud; eastern redcedar; flowering dogwood; gray dogwood	Common serviceberry; persimmon; post oak; red pine; shingle oak; shortleaf pine	Black oak; mockernut hickory; northern red oak; white ash	---
Ocie-----	Common ninebark; fragrant sumac; St. Johnswort	Eastern redcedar; possumhaw; roughleaf dogwood; Washington hawthorn	Arborvitae; bur oak; green hawthorn; post oak	Austrian pine; common hackberry; green ash; honeylocust; pin oak	---
Bendavis-----	Coralberry; fragrant sumac; ninebark	Eastern redbud; eastern redcedar; flowering dogwood; gray dogwood	Common serviceberry; persimmon; post oak; red pine; shingle oak; shortleaf pine	Black oak; mockernut hickory; northern red oak; white ash	---
74626: Tanglenook-----	Buttonbush; ninebark	Possumhaw; sandbar willow	Black willow; bur oak; green hawthorn	Baldcypress; green ash; pecan; red maple; swamp white oak; sweetgum	Eastern cottonwood; silver maple
74657: Pomme-----	Coralberry; fragrant sumac; ninebark	Eastern redbud; eastern redcedar; flowering dogwood; gray dogwood	Common serviceberry; persimmon; post oak; red pine; shingle oak; shortleaf pine	Black oak; mockernut hickory; northern red oak; white ash	---

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
74658: Zanoni-----	Coralberry; flameleaf sumac	Eastern redcedar; gray dogwood; jack pine	Chinkapin oak; persimmon; post oak	Black oak; honeylocust	---
75382: Cedargap-----	Coralberry; fragrant sumac; ninebark	Eastern redbud; eastern redcedar; flowering dogwood; gray dogwood	Common serviceberry; persimmon; post oak; red pine; shingle oak; shortleaf pine	Black oak; mockernut hickory; northern red oak; white ash	---
75390: Razort-----	American hazelnut; ninebark; wild hydrangea	American plum; blue spruce; possumhaw; roughleaf dogwood	Arborvitae; bur oak; green hawthorn; shingle oak	Austrian pine; baldcypress; hackberry; pin oak; red maple	American sycamore; eastern cottonwood; eastern white pine
75406: Racket-----	American hazelnut; ninebark; wild hydrangea	American plum; blue spruce; possumhaw; roughleaf dogwood	Arborvitae; bur oak; green hawthorn; shingle oak	Austrian pine; baldcypress; hackberry; pin oak; red maple	American sycamore; eastern cottonwood; eastern white pine
75417: Relfe-----	Coralberry; fragrant sumac; ninebark	Eastern redbud; eastern redcedar; flowering dogwood; gray dogwood	Common serviceberry; persimmon; post oak; red pine; shingle oak; shortleaf pine	Black oak; mockernut hickory; northern red oak; white ash	---
Sandbur-----	Coralberry; flameleaf sumac	Eastern redcedar; gray dogwood; jack pine	Chinkapin oak; persimmon; post oak	Black oak; honeylocust	---
75422: Secesh-----	Coralberry; fragrant sumac; ninebark	Eastern redbud; eastern redcedar; flowering dogwood; gray dogwood	Common serviceberry; persimmon; post oak; red pine; shingle oak; shortleaf pine	Black oak; mockernut hickory; northern red oak; white ash	---
75423: Cedargap-----	Coralberry; fragrant sumac; ninebark	Eastern redbud; eastern redcedar; flowering dogwood; gray dogwood	Common serviceberry; persimmon; post oak; red pine; shingle oak; shortleaf pine	Black oak; mockernut hickory; northern red oak; white ash	---

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
75424: Sandbur-----	Coralberry; flameleaf sumac	Eastern redcedar; gray dogwood; jack pine	Chinkapin oak; persimmon; post oak	Black oak; honeylocust	---
99001. Water					
99002. Borrow areas					



Table 10.--Recreational Site Development

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds		Paths and trails	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
70026: Tonti-----	Very limited percs slowly (very limited) wetness (moderately limited)	1.00  0.50	Very limited percs slowly (very limited) wetness (slightly limited)	1.00  0.28	Very limited percs slowly (very limited) wetness (moderately limited) small stones (moderately limited)	1.00  0.50  0.31	Slightly limited wetness (slightly limited)	0.28
73000: Pomme-----	Not limited		Not limited		Moderately limited slope (moderately limited)	0.40	Not limited	
73015: Viraton-----	Very limited wetness (very limited) percs slowly (moderately limited) too acid (slightly limited)	1.00  0.39  0.12	Very limited wetness (very limited) percs slowly (moderately limited) too acid (slightly limited)	1.00  0.39  0.12	Very limited wetness (very limited) percs slowly (moderately limited) too acid (slightly limited)	1.00  0.39  0.12	Very limited wetness (very limited)	1.00
73017: Bendavis-----	Very limited slope (very limited) percs slowly (very limited) small stones (very limited)	1.00  1.00  1.00	Very limited slope (very limited) percs slowly (very limited) small stones (very limited)	1.00  1.00  1.00	Very limited small stones (very limited) percs slowly (very limited) slope (very limited)	1.00  1.00  1.00	Very limited slope (very limited) large surface stones (limited) small stones (limited)	1.00  0.70  0.67
Poynor-----	Very limited slope (very limited) small stones (very limited) large surface stones (moderately limited)	1.00  1.00  0.31	Very limited slope (very limited) small stones (very limited) large surface stones (moderately limited)	1.00  1.00  0.31	Very limited small stones (very limited) slope (very limited) too acid (slightly limited)	1.00  1.00  0.30	Limited slope (limited) small stones (limited) large surface stones (moderately limited)	0.92  0.73  0.31

Table 10.--Recreational Site Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds		Paths and trails	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73019: Poynor-----	Very limited small stones (very limited)	1.00	Very limited small stones (very limited)	1.00	Very limited small stones (very limited) slope (limited)	1.00 0.98	Limited small stones (limited)	0.67
73023: Mano-----	Moderately limited small stones (moderately limited) percs slowly (moderately limited)	0.48 0.39	Moderately limited small stones (moderately limited) percs slowly (moderately limited)	0.48 0.39	Very limited small stones (very limited) slope (limited) percs slowly (moderately limited)	1.00 0.78 0.39	Not limited	
Ocie-----	Very limited small stones (very limited) percs slowly (moderately limited)	1.00 0.39	Very limited small stones (very limited) percs slowly (moderately limited)	1.00 0.39	Very limited small stones (very limited) slope (limited) percs slowly (moderately limited)	1.00 0.78 0.39	Slightly limited small stones (slightly limited)	0.30
73024: Mano-----	Very limited small stones (limited) slope (limited) percs slowly (moderately limited)	1.00 0.63 0.39	Very limited small stones (limited) slope (limited) percs slowly (moderately limited)	1.00 0.63 0.39	Very limited slope (very limited) small stones (very limited) percs slowly (moderately limited)	1.00 1.00 0.39	Moderately limited large surface stones (moderately limited) small stones (slightly limited)	0.31 0.01
Ocie-----	Very limited small stones (very limited) slope (limited) percs slowly (moderately limited)	1.00 0.63 0.39	Very limited small stones (very limited) slope (limited) percs slowly (moderately limited)	1.00 0.63 0.39	Very limited small stones (very limited) slope (very limited) percs slowly (moderately limited)	1.00 1.00 0.39	Moderately limited large surface stones (moderately limited) small stones (slightly limited)	0.31 0.30

Table 10.--Recreational Site Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds		Paths and trails	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73069: Tick-----	Very limited slope (very limited) small stones (very limited) percs slowly (moderately limited)	1.00 1.00 0.34	Very limited slope (very limited) small stones (very limited) percs slowly (moderately limited)	1.00 1.00 0.34	Very limited small stones (very limited) slope (very limited) percs slowly (moderately limited)	1.00 1.00 0.34	Limited small stones (limited) slope (limited) large surface stones (slightly limited)	0.94 0.92 0.07
73073: Scholten-----	Very limited percs slowly (very limited) small stones (very limited) wetness (limited)	1.00 1.00 0.90	Very limited percs slowly (very limited) small stones (very limited) slope (limited)	1.00 1.00 0.63	Very limited small stones (very limited) slope (very limited) percs slowly (very limited)	1.00 1.00 1.00	Moderately limited wetness (moderately limited) small stones (slightly limited)	0.56 0.30
Poynor-----	Very limited small stones (very limited) slope (limited) percs slowly (slightly limited)	1.00 0.63 0.18	Very limited small stones (very limited) slope (limited) percs slowly (slightly limited)	1.00 0.63 0.18	Very limited small stones (very limited) slope (very limited) percs slowly (slightly limited)	1.00 1.00 0.18	Moderately limited small stones (moderately limited)	0.60
73076: Mano-----	Very limited slope (very limited) small stones (very limited) percs slowly (moderately limited)	1.00 1.00 0.39	Very limited slope (very limited) small stones (very limited) percs slowly (moderately limited)	1.00 1.00 0.39	Very limited small stones (very limited) slope (very limited) percs slowly (moderately limited)	1.00 1.00 0.39	Limited slope (limited) small stones (slightly limited)	0.92 0.30
Ocie-----	Very limited slope (very limited) small stones (very limited) percs slowly (moderately limited)	1.00 1.00 0.39	Very limited slope (very limited) small stones (very limited) percs slowly (moderately limited)	1.00 1.00 0.39	Very limited small stones (very limited) slope (very limited) percs slowly (moderately limited)	1.00 1.00 0.39	Limited slope (limited) small stones (slightly limited)	0.92 0.30

Table 10.--Recreational Site Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds		Paths and trails	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73198: Gressy-----	Not limited		Not limited		Moderately limited slope (moderately limited) small stones (slightly limited)	0.40 0.01	Not limited	
Viraton-----	Very limited percs slowly (very limited) wetness (moderately limited) too acid (slightly limited)	1.00 0.50 0.12	Very limited percs slowly (very limited) wetness (slightly limited) too acid (slightly limited)	1.00 0.28 0.12	Very limited percs slowly (very limited) wetness (moderately limited) slope (moderately limited)	1.00 0.50 0.40	Slightly limited wetness (slightly limited)	0.28
73199: Moko-----	Limited shallow to bedrock (limited) large stones (limited) small stones (moderately limited)	0.90 0.61 0.48	Limited shallow to bedrock (limited) large stones (limited) small stones (moderately limited)	0.90 0.61 0.48	Very limited large stones >25% (very limited) shallow to bedrock (very limited) small stones (very limited)	1.00 1.00 1.00	Limited large stones (limited) large surface stones (moderately limited)	0.61 0.37
Rock outcrop-----	Not rated		Not rated		Not rated		Not rated	
73220: Poynor-----	Very limited small stones (very limited) slope (limited) percs slowly (slightly limited)	1.00 0.63 0.18	Very limited small stones (very limited) slope (limited) percs slowly (slightly limited)	1.00 0.63 0.18	Very limited small stones (very limited) slope (very limited) percs slowly (slightly limited)	1.00 1.00 0.18	Very limited small stones (very limited)	1.00
73221: Poynor-----	Very limited small stones (very limited) slope (very limited) large surface stones (moderately limited)	1.00 1.00 0.31	Very limited small stones (very limited) slope (very limited) large surface stones (moderately limited)	1.00 1.00 0.31	Very limited small stones (very limited) slope (very limited) too acid (slightly limited)	1.00 1.00 0.30	Limited small stones (limited) large surface stones (moderately limited) slope (slightly limited)	0.81 0.31 0.08

Table 10.--Recreational Site Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds		Paths and trails	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73222: Splitlimb-----	Very limited ponded (wetness) (very limited) wetness (limited) percs slowly (slightly limited)	1.00 0.81 0.13	Very limited ponded (wetness) (very limited) wetness (moderately limited) percs slowly (slightly limited)	1.00 0.49 0.13	Very limited ponded (wetness) (very limited) wetness (limited) percs slowly (slightly limited)	1.00 0.81 0.13	Very limited ponded (wetness) (very limited) wetness (moderately limited)	1.00 0.49
73223: Coulstone-----	Very limited slope (very limited) small stones (very limited) large surface stones (very limited)	1.00 1.00 1.00	Very limited slope (very limited) small stones (very limited) large surface stones (very limited)	1.00 1.00 1.00	Very limited small stones (very limited) slope (very limited)	1.00 1.00	Very limited large surface stones (very limited) slope (limited) small stones (moderately limited)	1.00 0.92 0.60
Bender-----	Very limited slope (very limited) small stones (limited) large surface stones (moderately limited)	1.00 0.71 0.43	Very limited slope (very limited) small stones (limited) large surface stones (moderately limited)	1.00 0.71 0.43	Very limited large stones >25% (very limited) slope (very limited) small stones (very limited)	1.00 1.00 1.00	Very limited slope (very limited) large surface stones (moderately limited) large stones (moderately limited)	1.00 0.43 0.40
73224: Moko-----	Very limited slope (very limited) shallow to bedrock (limited) small stones (limited)	1.00 0.90 0.66	Very limited slope (very limited) shallow to bedrock (limited) small stones (limited)	1.00 0.90 0.66	Very limited slope (very limited) shallow to bedrock (very limited) small stones (very limited)	1.00 1.00 1.00	Limited slope (limited) large surface stones (moderately limited) large stones (slightly limited)	0.92 0.37 0.06
Rock outcrop-----	Not rated		Not rated		Not rated		Not rated	
73225: Ocic-----	Moderately limited small stones (moderately limited) percs slowly (moderately limited)	0.48 0.39	Moderately limited small stones (moderately limited) percs slowly (moderately limited)	0.48 0.39	Very limited small stones (very limited) slope (limited) percs slowly (moderately limited)	1.00 0.98 0.39	Not limited	

Table 10.--Recreational Site Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds		Paths and trails	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73225: Gatewood-----	Very limited small stones (very limited) percs slowly (moderately limited) wetness (moderately limited)	1.00 0.39 0.35	Very limited small stones (very limited) percs slowly (moderately limited) wetness (slightly limited)	1.00 0.39 0.13	Very limited small stones (very limited) slope (limited) depth to bedrock (moderately limited)	1.00 0.98 0.46	Slightly limited small stones (slightly limited) wetness (slightly limited)	0.30 0.13
73226: Ocie-----	Very limited small stones (very limited) percs slowly (moderately limited) slope (slightly limited)	1.00 0.39 0.04	Very limited small stones (very limited) percs slowly (moderately limited) slope (slightly limited)	1.00 0.39 0.04	Very limited small stones (very limited) slope (very limited) percs slowly (moderately limited)	1.00 1.00 0.39	Slightly limited small stones (slightly limited)	0.30
Gatewood-----	Very limited small stones (very limited) percs slowly (moderately limited) wetness (moderately limited)	1.00 0.39 0.35	Very limited small stones (very limited) percs slowly (moderately limited) wetness (slightly limited)	1.00 0.39 0.13	Very limited small stones (very limited) slope (very limited) depth to bedrock (moderately limited)	1.00 1.00 0.46	Slightly limited small stones (slightly limited) wetness (slightly limited)	0.30 0.13
73227: Ocie-----	Very limited slope (very limited) small stones (very limited) percs slowly (moderately limited)	1.00 1.00 0.39	Very limited slope (very limited) small stones (very limited) percs slowly (moderately limited)	1.00 1.00 0.39	Very limited slope (very limited) small stones (very limited) percs slowly (moderately limited)	1.00 1.00 0.39	Very limited slope (very limited) small stones (slightly limited)	1.00 0.30
Gatewood-----	Very limited slope (very limited) small stones (very limited) percs slowly (moderately limited)	1.00 1.00 0.39	Very limited slope (very limited) small stones (very limited) percs slowly (moderately limited)	1.00 1.00 0.39	Very limited small stones (very limited) slope (very limited) percs slowly (moderately limited)	1.00 1.00 0.39	Very limited slope (very limited) small stones (moderately limited) wetness (slightly limited)	1.00 0.45 0.13



Table 10.--Recreational Site Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds		Paths and trails	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73228:								
Gatewood-----	Very limited small stones (very limited) percs slowly (moderately limited) large surface stones (moderately limited)	1.00 0.39 0.37	Very limited small stones (very limited) percs slowly (moderately limited) large surface stones (moderately limited)	1.00 0.39 0.37	Very limited small stones (very limited) slope (very limited) depth to bedrock (moderately limited)	1.00 1.00 0.46	Moderately limited large surface stones (moderately limited) small stones (slightly limited) wetness (slightly limited)	0.37 0.30 0.13
Moko-----	Limited shallow to bedrock (limited) small stones (limited) large surface stones (moderately limited)	0.90 0.66 0.37	Limited shallow to bedrock (limited) small stones (limited) large surface stones (moderately limited)	0.90 0.66 0.37	Very limited shallow to bedrock (very limited) small stones (very limited) slope (very limited)	1.00 1.00	Moderately limited large surface stones (moderately limited) large stones (slightly limited)	0.37 0.06
73229:								
Gatewood-----	Very limited slope (very limited) small stones (limited) percs slowly (moderately limited)	1.00 0.64 0.39	Very limited slope (very limited) small stones (limited) percs slowly (moderately limited)	1.00 0.64 0.39	Very limited slope (very limited) small stones (very limited) depth to bedrock (moderately limited)	1.00 1.00 0.46	Limited slope (limited) large surface stones (moderately limited) wetness (slightly limited)	0.92 0.37 0.13
Moko-----	Very limited slope (very limited) shallow to bedrock (limited) small stones (limited)	1.00 0.90 0.66	Very limited slope (very limited) shallow to bedrock (limited) small stones (limited)	1.00 0.90 0.66	Very limited slope (very limited) shallow to bedrock (very limited) small stones (very limited)	1.00 1.00	Limited slope (limited) large surface stones (moderately limited) large stones (slightly limited)	0.92 0.37 0.06
73230:								
Coulstone-----	Very limited slope (very limited) large surface stones (very limited) large stones (limited)	1.00 1.00 0.61	Very limited slope (very limited) large surface stones (very limited) large stones (limited)	1.00 1.00 0.61	Very limited slope (very limited) large stones >25% (very limited) small stones (very limited)	1.00 1.00 1.00	Very limited large surface stones (very limited) slope (limited) large stones (limited)	1.00 0.92 0.61

Table 10.--Recreational Site Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds		Paths and trails	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73230: Bender-----	Very limited slope (very limited) small stones (limited) large surface stones (moderately limited)	1.00  0.81  0.43	Very limited slope (very limited) small stones (limited) large surface stones (moderately limited)	1.00  0.81  0.43	Very limited slope (very limited) small stones (very limited) large stones >25% (very limited)	1.00  1.00  1.00	Very limited slope (very limited) large surface stones (moderately limited) large stones (slightly limited)	1.00  0.43  0.19
Gatewood-----	Very limited slope (very limited) small stones (very limited) percs slowly (moderately limited)	1.00  1.00  0.39	Very limited slope (very limited) small stones (very limited) percs slowly (moderately limited)	1.00  1.00  0.39	Very limited small stones (very limited) slope (very limited) depth to bedrock (moderately limited)	1.00  1.00  0.46	Very limited small stones (very limited) slope (very limited) wetness (slightly limited)	1.00  1.00  0.13
73231: Wasola-----	Very limited small stones (very limited) wetness (moderately limited) percs slowly (moderately limited)	1.00  0.50  0.39	Very limited small stones (very limited) percs slowly (moderately limited) wetness (slightly limited)	1.00  0.39  0.28	Very limited small stones (very limited) wetness (moderately limited) slope (moderately limited)	1.00  0.50  0.40	Limited small stones (limited) wetness (slightly limited)	0.73  0.28
73232: Alred-----	Very limited small stones (limited) percs slowly (moderately limited)	1.00  0.39	Very limited small stones (limited) percs slowly (moderately limited)	1.00  0.39	Very limited small stones (very limited) slope (limited) percs slowly (moderately limited)	1.00  0.78  0.39	Slightly limited small stones (slightly limited)	0.01
Ocie-----	Moderately limited small stones (moderately limited) percs slowly (moderately limited)	0.48  0.39	Moderately limited small stones (moderately limited) percs slowly (moderately limited)	0.48  0.39	Very limited small stones (very limited) slope (limited) percs slowly (moderately limited)	1.00  0.78  0.39	Not limited	

Table 10.--Recreational Site Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds		Paths and trails	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73233:								
Alred-----	Very limited small stones (limited) slope (limited) percs slowly (moderately limited)	1.00 0.63 0.39	Very limited small stones (limited) slope (limited) percs slowly (moderately limited)	1.00 0.63 0.39	Very limited slope (very limited) small stones (very limited) percs slowly (moderately limited)	1.00 1.00 0.39	Slightly limited small stones (slightly limited)	0.01
Ocie-----	Limited slope (limited) small stones (moderately limited) percs slowly (moderately limited)	0.63 0.48 0.39	Limited slope (limited) small stones (moderately limited) percs slowly (moderately limited)	0.63 0.48 0.39	Very limited slope (very limited) small stones (very limited) percs slowly (moderately limited)	1.00 1.00 0.39	Not limited	
73234:								
Alred-----	Very limited slope (very limited) large stones (limited) small stones (moderately limited)	1.00 0.61 0.55	Very limited slope (very limited) large stones (limited) small stones (moderately limited)	1.00 0.61 0.55	Very limited large stones >25% (very limited) slope (very limited) small stones (very limited)	1.00 1.00 1.00	Limited slope (limited) large stones (limited)	0.92 0.61
Gatewood-----	Very limited slope (very limited) small stones (very limited) percs slowly (moderately limited)	1.00 1.00 0.39	Very limited slope (very limited) small stones (very limited) percs slowly (moderately limited)	1.00 1.00 0.39	Very limited small stones (very limited) slope (very limited) percs slowly (moderately limited)	1.00 1.00 0.39	Very limited slope (very limited) small stones (moderately limited) wetness (slightly limited)	1.00 0.45 0.13
73235:								
Alred-----	Very limited slope (very limited) small stones (very limited) percs slowly (moderately limited)	1.00 1.00 0.39	Very limited slope (very limited) small stones (very limited) percs slowly (moderately limited)	1.00 1.00 0.39	Very limited small stones (very limited) slope (very limited) percs slowly (moderately limited)	1.00 1.00 0.39	Very limited slope (very limited) small stones (limited)	1.00 0.87

Table 10.--Recreational Site Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds		Paths and trails	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73236: Scholten-----	Very limited percs slowly (very limited) wetness (limited) small stones (limited)	1.00 0.90 0.73	Very limited percs slowly (very limited) small stones (limited) wetness (moderately limited)	1.00 0.73 0.56	Very limited percs slowly (very limited) small stones (very limited) slope (limited)	1.00 1.00 0.98	Moderately limited wetness (moderately limited)	0.56
Poynor-----	Very limited small stones (very limited) too acid (slightly limited)	1.00 0.12	Very limited small stones (very limited) too acid (slightly limited)	1.00 0.12	Very limited small stones (very limited) slope (limited) too acid (slightly limited)	1.00 0.78 0.12	Limited small stones (limited)	0.67
73237: Clarksville-----	Very limited small stones (very limited) large surface stones (limited) too acid (limited)	1.00 0.79 0.71	Very limited small stones (very limited) large surface stones (limited) too acid (limited)	1.00 0.79 0.71	Very limited small stones (very limited) slope (very limited) too acid (limited)	1.00 1.00 0.71	Limited large surface stones (limited) small stones (moderately limited)	0.79 0.49
73239: Rueter-----	Very limited slope (very limited) small stones (very limited) large surface stones (limited)	1.00 1.00 0.79	Very limited slope (very limited) small stones (very limited) large surface stones (limited)	1.00 1.00 0.79	Very limited small stones (very limited) slope (very limited) too acid (limited)	1.00 1.00 0.71	Limited slope (limited) large surface stones (limited) small stones (moderately limited)	0.92 0.79 0.49
Rock outcrop-----	Not rated		Not rated		Not rated		Not rated	
73240: Jerktail-----	Moderately limited wetness (moderately limited) percs slowly (moderately limited)	0.50 0.39	Moderately limited percs slowly (moderately limited) wetness (slightly limited)	0.39 0.28	Limited slope (limited) wetness (moderately limited) percs slowly (moderately limited)	0.78 0.50 0.39	Slightly limited wetness (slightly limited)	0.28

Table 10.--Recreational Site Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds		Paths and trails	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73242: Fanchon-----	Not limited		Not limited		Moderately limited slope (moderately limited)	0.40	Not limited	
Tonti-----	Very limited percs slowly (very limited) wetness (limited)	1.00  0.84	Very limited percs slowly (very limited) wetness (moderately limited)	1.00  0.51	Very limited percs slowly (very limited) wetness (limited) slope (moderately limited)	1.00  0.84  0.40	Moderately limited wetness (moderately limited)	0.51
73243: Topazmill-----	Not limited		Not limited		Moderately limited slope (moderately limited)	0.40	Not limited	
73245: Alred-----	Very limited small stones (very limited) percs slowly (moderately limited)	1.00  0.39	Very limited small stones (very limited) percs slowly (moderately limited)	1.00  0.39	Very limited small stones (very limited) slope (limited) percs slowly (moderately limited)	1.00  0.78  0.39	Slightly limited small stones (slightly limited)	0.30
73246: Alred-----	Very limited small stones (very limited) slope (limited) percs slowly (moderately limited)	1.00  0.63  0.39	Very limited small stones (very limited) slope (limited) percs slowly (moderately limited)	1.00  0.63  0.39	Very limited small stones (very limited) slope (very limited) percs slowly (moderately limited)	1.00  1.00  0.39	Moderately limited small stones (moderately limited)	0.60
73247: Alred-----	Very limited slope (very limited) small stones (very limited) percs slowly (moderately limited)	1.00  1.00  0.39	Very limited slope (very limited) small stones (very limited) percs slowly (moderately limited)	1.00  1.00  0.39	Very limited small stones (very limited) slope (very limited) percs slowly (moderately limited)	1.00  1.00  0.39	Limited slope (limited) small stones (limited)	0.92  0.90

Table 10.--Recreational Site Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds		Paths and trails	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73248:								
Alred-----	Limited		Limited		Very limited		Limited	
	percs slowly	0.70	percs slowly	0.70	large stones >25%	1.00	large stones	0.61
	(limited)		(limited)		(very limited)		(limited)	
	small stones	0.64	small stones	0.64	slope	1.00	large surface stones	0.13
	(limited)		(limited)		(very limited)		(slightly limited)	
	slope	0.63	slope	0.63	small stones	1.00		
	(limited)		(limited)		(very limited)			
Bendavis-----	Very limited		Very limited		Very limited		Moderately limited	
	small stones	1.00	small stones	1.00	small stones	1.00	small stones	0.60
	(very limited)		(very limited)		(very limited)		(moderately limited)	
	slope	0.63	slope	0.63	slope	1.00	large surface stones	0.13
	(limited)		(limited)		(very limited)		(slightly limited)	
	large surface stones	0.13	large surface stones	0.13	depth to bedrock	0.58		
	(slightly limited)		(slightly limited)		(moderately limited)			
73249:								
Alred-----	Very limited		Very limited		Very limited		Limited	
	slope	1.00	slope	1.00	large stones >25%	1.00	slope	0.92
	(very limited)		(very limited)		(very limited)		(limited)	
	small stones	0.64	small stones	0.64	slope	1.00	large stones	0.61
	(limited)		(limited)		(very limited)		(limited)	
	large stones	0.61	large stones	0.61	small stones	1.00	large surface stones	0.13
	(limited)		(limited)		(very limited)		(slightly limited)	
Ocie-----	Very limited		Very limited		Very limited		Limited	
	slope	1.00	slope	1.00	small stones	1.00	slope	0.92
	(very limited)		(very limited)		(very limited)		(limited)	
	small stones	1.00	small stones	1.00	slope	1.00	large surface stones	0.70
	(very limited)		(very limited)		(very limited)		(limited)	
	large surface stones	0.70	large surface stones	0.70	percs slowly	0.39	small stones	0.30
	(limited)		(limited)		(moderately limited)		(slightly limited)	
Bendavis-----	Very limited		Very limited		Very limited		Very limited	
	slope	1.00	slope	1.00	small stones	1.00	slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)	
	percs slowly	1.00	percs slowly	1.00	percs slowly	1.00	large surface stones	0.70
	(very limited)		(very limited)		(very limited)		(limited)	
	small stones	1.00	small stones	1.00	slope	1.00	small stones	0.67
	(very limited)		(very limited)		(very limited)		(limited)	



Table 10.--Recreational Site Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds		Paths and trails	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
74626: Tanglenook-----	Very limited wetness (very limited) flooding (rare) (limited) percs slowly (moderately limited)	1.00  0.90  0.39	Very limited wetness (very limited) percs slowly (moderately limited)	1.00  0.39	Very limited wetness (very limited) percs slowly (moderately limited)	1.00  0.39	Very limited wetness (very limited)	1.00
74657: Pomme-----	Not limited		Not limited		Limited slope (limited)	0.78	Not limited	
74658: Zanoni-----	Limited flooding (rare) (limited)	0.90	Not limited		Moderately limited small stones (moderately limited)	0.31	Not limited	
75382: Cedargap-----	Very limited flooding (very limited) small stones (moderately limited)	1.00  0.48	Moderately limited flooding (moderately limited) small stones (moderately limited)	0.60  0.48	Very limited flooding (very limited) small stones (very limited)	1.00  1.00	Moderately limited flooding (moderately limited)	0.60
75390: Razort-----	Limited flooding (rare) (limited)	0.90	Not limited		Slightly limited small stones (slightly limited)	0.15	Not limited	
75406: Racket-----	Very limited flooding (very limited)	1.00	Moderately limited flooding (moderately limited)	0.60	Very limited flooding (very limited)	1.00	Moderately limited flooding (moderately limited)	0.60
75417: Relfe-----	Very limited flooding (very limited) small stones (very limited)	1.00  1.00	Very limited small stones (very limited) flooding (moderately limited)	1.00  0.60	Very limited flooding (very limited) small stones (very limited)	1.00  1.00	Moderately limited flooding (moderately limited) small stones (moderately limited)	0.60  0.53

Table 10.--Recreational Site Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds		Paths and trails	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
75417: Sandbur-----	Very limited flooding (very limited)	1.00	Moderately limited flooding (moderately limited)	0.60	Very limited flooding (very limited)	1.00	Moderately limited flooding (moderately limited)	0.60
75422: Secesh-----	Very limited flooding (very limited)	1.00	Not limited		Moderately limited flooding (moderately limited) large stones (slightly limited)	0.60 0.01	Not limited	
75423: Cedargap-----	Very limited flooding (very limited) small stones (very limited)	1.00 1.00	Very limited small stones (very limited)	1.00	Very limited small stones (very limited) flooding (moderately limited)	1.00 0.60	Moderately limited small stones (moderately limited)	0.60
75424: Sandbur-----	Very limited flooding (very limited)	1.00	Moderately limited flooding (moderately limited)	0.60	Very limited flooding (very limited)	1.00	Moderately limited flooding (moderately limited)	0.60
99001: Water-----	Not rated		Not rated		Not rated		Not rated	
99002: Borrow areas-----	Not rated		Not rated		Not rated		Not rated	

Table 11a.--Wildlife Habitat

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Grain and seed crops (for use as food and cover)		Domestic grasses and legumes (for use as food and cover)		Upland wild herbaceous plants		Upland shrubs and vines		Upland deciduous trees	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
70026: Tonti-----	Very limited percs slowly (very limited) droughty (limited) moderate erodibility (moderately limited)	1.00 0.90 0.50	Very limited percs slowly (very limited) moderate erodibility (moderately limited) wetness (moderately limited)	1.00 0.50 0.44	Moderately limited wetness (moderately limited)	0.44	Moderately limited wetness (moderately limited)	0.44	Moderately limited wetness (moderately limited)	0.59
73000: Pomme-----	Limited high erodibility (limited) droughty (slightly limited)	0.80 0.02	Limited high erodibility (limited)	0.80	Not limited		Not limited		Not limited	
73015: Viraton-----	Very limited wetness (very limited) droughty (limited) moderate erodibility (moderately limited)	1.00 0.98 0.50	Very limited wetness (very limited) moderate erodibility (moderately limited) percs slowly (moderately limited)	1.00 0.50 0.39	Very limited wetness (very limited)	1.00	Very limited wetness (very limited)	1.00	Very limited wetness (very limited)	1.00
73017: Bendavis-----	Very limited percs slowly (very limited) small stones (very limited) slope (limited)	1.00 1.00 0.91	Very limited percs slowly (very limited) small stones (very limited) slope (limited)	1.00 1.00 0.91	Limited small stones (limited) wetness (slightly limited)	0.67 0.28	Limited small stones (limited) wetness (slightly limited) depth to bedrock (slightly limited)	0.67 0.28 0.13	Moderately limited wetness (moderately limited) depth to bedrock (slightly limited)	0.45 0.13

Table 11a.--Wildlife Habitat--Continued

Map symbol and soil name	Grain and seed crops (for use as food and cover)		Domestic grasses and legumes (for use as food and cover)		Upland wild herbaceous plants		Upland shrubs and vines		Upland deciduous trees	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73017: Poynor-----	Very limited droughty (very limited) small stones (very limited) high erodibility (limited)	1.00  1.00  0.80	Very limited small stones (very limited) high erodibility (limited) slope (moderately limited)	1.00  0.80  0.60	Limited small stones (limited) droughty (moderately limited)	0.73  0.57	Limited small stones (limited) droughty (moderately limited)	0.73  0.57	Moderately limited droughty (moderately limited)	0.57
73019: Poynor-----	Very limited droughty (very limited) small stones (very limited) high erodibility (limited)	1.00  1.00  0.80	Very limited small stones (very limited) high erodibility (limited) droughty (moderately limited)	1.00  0.80  0.57	Limited small stones (limited) droughty (moderately limited)	0.67  0.57	Limited small stones (limited) droughty (moderately limited)	0.67  0.57	Moderately limited droughty (moderately limited)	0.57
73023: Mano-----	Limited droughty (limited) high erodibility (limited) small stones (moderately limited)	0.87  0.80  0.48	Limited high erodibility (limited) small stones (moderately limited) percs slowly (moderately limited)	0.80  0.48  0.39	Slightly limited wetness (slightly limited) small stones (slightly limited)	0.28  0.08	Slightly limited wetness (slightly limited)	0.28	Moderately limited wetness (moderately limited)	0.45
Ocie-----	Very limited small stones (very limited) high erodibility (limited) droughty (limited)	1.00  0.80  0.63	Very limited small stones (very limited) high erodibility (limited) percs slowly (moderately limited)	1.00  0.80  0.39	Moderately limited small stones (moderately limited) wetness (slightly limited)	0.42  0.28	Slightly limited small stones (slightly limited) wetness (slightly limited)	0.30  0.28	Moderately limited wetness (moderately limited)	0.45
73024: Mano-----	Limited small stones (limited) droughty (limited) high erodibility (limited)	1.00  0.87  0.80	Limited small stones (limited) high erodibility (limited) percs slowly (moderately limited)	1.00  0.80  0.39	Slightly limited wetness (slightly limited) small stones (slightly limited)	0.28  0.24	Slightly limited wetness (slightly limited) small stones (slightly limited)	0.28  0.01	Moderately limited wetness (moderately limited)	0.45

Table 11a.--Wildlife Habitat--Continued

Map symbol and soil name	Grain and seed crops (for use as food and cover)		Domestic grasses and legumes (for use as food and cover)		Upland wild herbaceous plants		Upland shrubs and vines		Upland deciduous trees	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73024: Ocie-----	Very limited small stones (very limited) high erodibility (limited) droughty (limited)	1.00 0.80 0.63	Very limited small stones (very limited) high erodibility (limited) percs slowly (moderately limited)	1.00 0.80 0.39	Moderately limited small stones (moderately limited) wetness (slightly limited)	0.42 0.28	Slightly limited small stones (slightly limited) wetness (slightly limited)	0.30 0.28	Moderately limited wetness (moderately limited)	0.45
73069: Tick-----	Very limited small stones (very limited) droughty (limited) high erodibility (limited)	1.00 0.82 0.80	Very limited small stones (very limited) high erodibility (limited) slope (moderately limited)	1.00 0.80 0.60	Limited small stones (limited)	0.93	Limited small stones (limited)	0.94	Not limited	
73073: Scholten----	Very limited droughty (very limited) percs slowly (very limited) small stones (very limited)	1.00 1.00 1.00	Very limited percs slowly (very limited) small stones (very limited) high erodibility (limited)	1.00 1.00 0.80	Limited droughty (limited) wetness (moderately limited) small stones (moderately limited)	0.70 0.58 0.42	Limited droughty (limited) wetness (moderately limited) small stones (slightly limited)	0.70 0.58 0.30	Limited wetness (limited) droughty (limited)	0.93 0.70
Poynor-----	Very limited droughty (very limited) small stones (very limited) high erodibility (limited)	1.00 1.00 1.00 0.80	Very limited small stones (very limited) high erodibility (limited) droughty (limited)	1.00 0.80 0.75	Limited droughty (limited) small stones (moderately limited)	0.75 0.60	Limited droughty (limited) small stones (moderately limited)	0.75 0.60	Limited droughty (limited)	0.75
73076: Mano-----	Very limited small stones (very limited) droughty (limited) high erodibility (limited)	1.00 0.87 0.80	Very limited small stones (very limited) high erodibility (limited) slope (moderately limited)	1.00 0.80 0.60	Moderately limited small stones (moderately limited) wetness (slightly limited)	0.42 0.28	Slightly limited small stones (slightly limited) wetness (slightly limited)	0.30 0.28	Moderately limited wetness (moderately limited)	0.45

Table 11a.--Wildlife Habitat--Continued

Map symbol and soil name	Grain and seed crops (for use as food and cover)		Domestic grasses and legumes (for use as food and cover)		Upland wild herbaceous plants		Upland shrubs and vines		Upland deciduous trees	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73076: Ocie-----	Very limited small stones (very limited)	1.00	Very limited small stones (very limited)	1.00	Moderately limited small stones (moderately limited)	0.42	Slightly limited small stones (slightly limited)	0.30	Moderately limited wetness (moderately limited)	0.45
	high erodibility (limited)	0.80	high erodibility (limited)	0.80	wetness (slightly limited)	0.28	wetness (slightly limited)	0.28		
	droughty (limited)	0.63	slope (moderately limited)	0.60						
73198: Gressy-----	Moderately limited moderate erodibility (moderately limited)	0.50	Moderately limited moderate erodibility (moderately limited)	0.50	Not limited		Not limited		Not limited	
Viraton-----	Very limited percs slowly (very limited)	1.00	Very limited percs slowly (very limited)	1.00	Moderately limited wetness (moderately limited)	0.44	Moderately limited wetness (moderately limited)	0.44	Moderately limited wetness (moderately limited)	0.59
	droughty (limited)	0.98	moderate erodibility (moderately limited)	0.50						
	moderate erodibility (moderately limited)	0.50	wetness (moderately limited)	0.44						
73199: Moko-----	Very limited droughty (very limited)	1.00	Very limited droughty (very limited)	1.00	Very limited droughty (very limited)	1.00	Very limited droughty (very limited)	1.00	Very limited shallow to bedrock (very limited)	1.00
	shallow to bedrock (very limited)	1.00	shallow to bedrock (very limited)	1.00	large stones (limited)	0.61	shallow to bedrock (very limited)	1.00	droughty (very limited)	1.00
	large stones >35% (very limited)	0.99	large stones >35% (very limited)	0.99	small stones (slightly limited)	0.08	large stones (limited)	0.61	large stones (limited)	0.61
Rock outcrop--	Not rated		Not rated		Not rated		Not rated		Not rated	
73220: Poynor-----	Very limited small stones (very limited)	1.00	Very limited small stones (very limited)	1.00	Very limited small stones (very limited)	1.00	Very limited small stones (very limited)	1.00	Moderately limited droughty (moderately limited)	0.57
	droughty (very limited)	1.00	high erodibility (limited)	0.80	droughty (moderately limited)	0.57	droughty (moderately limited)	0.57		
	high erodibility (limited)	0.80	droughty (moderately limited)	0.57						



Table 11a.--Wildlife Habitat--Continued

Map symbol and soil name	Grain and seed crops (for use as food and cover)		Domestic grasses and legumes (for use as food and cover)		Upland wild herbaceous plants		Upland shrubs and vines		Upland deciduous trees	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73221: Poynor-----	Very limited droughty (very limited) small stones (very limited) high erodibility (limited)	1.00  1.00  0.80	Very limited small stones (very limited) high erodibility (limited) droughty (moderately limited)	1.00  0.80  0.57	Limited small stones (limited) droughty (moderately limited)	0.81  0.57	Limited small stones (limited) droughty (moderately limited)	0.81  0.57	Moderately limited droughty (moderately limited)	0.57
73222: Splitlimb-----	Very limited ponded (wetness) (very limited) wetness (moderately limited) percs slowly (slightly limited)	1.00  0.55  0.13	Very limited ponded (wetness) (very limited) wetness (moderately limited) percs slowly (slightly limited)	1.00  0.55  0.13	Limited seasonally ponded (limited) wetness (moderately limited)	0.80  0.55	Limited seasonally ponded (limited) wetness (moderately limited)	0.80  0.55	Limited wetness (limited) seasonally ponded (limited)	0.85  0.80
73223: Coulstone-----	Very limited droughty (very limited) small stones (very limited) high erodibility (limited)	1.00  1.00  0.80	Very limited small stones (very limited) droughty (very limited) high erodibility (limited)	1.00  1.00  0.80	Very limited droughty (very limited) small stones (moderately limited)	1.00  0.60	Very limited droughty (very limited) small stones (moderately limited)	1.00  0.60	Very limited droughty (very limited)	1.00
Bender-----	Very limited droughty (very limited) high erodibility (limited) slope (limited)	1.00  0.80  0.79	Very limited droughty (very limited) high erodibility (limited) slope (limited)	1.00  0.80  0.79	Very limited droughty (very limited) large stones (moderately limited) small stones (slightly limited)	1.00  0.40  0.14	Very limited droughty (very limited) large stones (moderately limited) depth to bedrock (moderately limited)	1.00  0.40  0.32	Very limited droughty (very limited) large stones (moderately limited) depth to bedrock (moderately limited)	1.00  0.40  0.32
73224: Moko-----	Very limited droughty (very limited) shallow to bedrock (very limited) high erodibility (limited)	1.00  1.00  0.80	Very limited droughty (very limited) shallow to bedrock (very limited) high erodibility (limited)	1.00  1.00  0.80	Very limited droughty (very limited) small stones (slightly limited) large stones (slightly limited)	1.00  0.13  0.06	Very limited droughty (very limited) shallow to bedrock (very limited) large stones (slightly limited)	1.00  1.00  0.06	Very limited shallow to bedrock (very limited) droughty (very limited) large stones (slightly limited)	1.00  1.00  0.06

Table 11a.--Wildlife Habitat--Continued

Map symbol and soil name	Grain and seed crops (for use as food and cover)		Domestic grasses and legumes (for use as food and cover)		Upland wild herbaceous plants		Upland shrubs and vines		Upland deciduous trees	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73224: Rock outcrop--	Not rated		Not rated		Not rated		Not rated		Not rated	
73225: Ocie-----	Limited high erodibility (limited) droughty (limited) small stones (moderately limited)	0.80 0.63 0.48	Limited high erodibility (limited) small stones (moderately limited) percs slowly (moderately limited)	0.80 0.48 0.39	Slightly limited wetness (slightly limited) small stones (slightly limited)	0.28 0.08	Slightly limited wetness (slightly limited)	0.28	Moderately limited wetness (moderately limited)	0.45
Gatewood-----	Very limited droughty (very limited) small stones (very limited) high erodibility (limited)	1.00 1.00 0.80	Very limited small stones (very limited) high erodibility (limited) depth to bedrock (moderately limited)	1.00 0.80 0.46	Moderately limited small stones (moderately limited) wetness (moderately limited) droughty (moderately limited)	0.42 0.36 0.31	Moderately limited depth to bedrock (moderately limited) wetness (moderately limited) droughty (moderately limited)	0.46 0.36 0.31	Moderately limited wetness (moderately limited) depth to bedrock (moderately limited) droughty (moderately limited)	0.51 0.46 0.31
73226: Ocie-----	Very limited small stones (very limited) high erodibility (limited) droughty (limited)	1.00 0.80 0.63	Very limited small stones (very limited) high erodibility (limited) percs slowly (moderately limited)	1.00 0.80 0.39	Moderately limited small stones (moderately limited) wetness (slightly limited)	0.42 0.28	Slightly limited small stones (slightly limited) wetness (slightly limited)	0.30 0.28	Moderately limited wetness (moderately limited)	0.45
Gatewood-----	Very limited droughty (very limited) small stones (very limited) high erodibility (limited)	1.00 1.00 0.80	Very limited small stones (very limited) high erodibility (limited) depth to bedrock (moderately limited)	1.00 0.80 0.46	Moderately limited small stones (moderately limited) wetness (moderately limited) droughty (moderately limited)	0.42 0.36 0.31	Moderately limited depth to bedrock (moderately limited) wetness (moderately limited) droughty (moderately limited)	0.46 0.36 0.31	Moderately limited wetness (moderately limited) depth to bedrock (moderately limited) droughty (moderately limited)	0.51 0.46 0.31

Table 11a.--Wildlife Habitat--Continued

Map symbol and soil name	Grain and seed crops (for use as food and cover)		Domestic grasses and legumes (for use as food and cover)		Upland wild herbaceous plants		Upland shrubs and vines		Upland deciduous trees	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73227:										
Ocie-----	Very limited small stones (very limited) slope (limited) high erodibility (limited)	1.00  0.91  0.80	Very limited small stones (very limited) slope (limited) high erodibility (limited)	1.00  0.91  0.80	Moderately limited small stones (moderately limited) wetness (slightly limited)	0.42  0.28	Slightly limited small stones (slightly limited) wetness (slightly limited)	0.30  0.28	Moderately limited wetness (moderately limited)	0.45
Gatewood-----	Very limited small stones (very limited) droughty (very limited) slope (limited)	1.00  1.00  0.91	Very limited small stones (very limited) slope (limited) high erodibility (limited)	1.00  0.91  0.80	Moderately limited small stones (moderately limited) wetness (moderately limited)	0.51  0.36	Moderately limited small stones (moderately limited) wetness (moderately limited) depth to bedrock (slightly limited)	0.45  0.36  0.13	Moderately limited wetness (moderately limited) depth to bedrock (slightly limited)	0.51  0.13
73228:										
Gatewood-----	Very limited droughty (very limited) small stones (very limited) high erodibility (limited)	1.00  1.00  0.80	Very limited small stones (very limited) high erodibility (limited) depth to bedrock (moderately limited)	1.00  0.80  0.46	Moderately limited small stones (moderately limited) wetness (moderately limited) droughty (moderately limited)	0.42  0.36  0.31	Moderately limited depth to bedrock (moderately limited) wetness (moderately limited) droughty (moderately limited)	0.46  0.36  0.31	Moderately limited wetness (moderately limited) depth to bedrock (moderately limited) droughty (moderately limited)	0.51  0.46  0.31
Moko-----	Very limited droughty (very limited) shallow to bedrock (very limited) high erodibility (limited)	1.00  1.00  0.80	Very limited droughty (very limited) shallow to bedrock (very limited) high erodibility (limited)	1.00  1.00  0.80	Very limited droughty (very limited) small stones (slightly limited) large stones (slightly limited)	1.00  0.13  0.06	Very limited droughty (very limited) shallow to bedrock (very limited) large stones (slightly limited)	1.00  1.00  0.06	Very limited shallow to bedrock (very limited) droughty (very limited) large stones (slightly limited)	1.00  1.00  0.06
73229:										
Gatewood-----	Very limited droughty (very limited) high erodibility (limited) small stones (limited)	1.00  0.80  0.64	Limited high erodibility (limited) small stones (limited) slope (moderately limited)	0.80  0.64  0.60	Moderately limited wetness (moderately limited) droughty (moderately limited) small stones (slightly limited)	0.36  0.31  0.13	Moderately limited depth to bedrock (moderately limited) wetness (moderately limited) droughty (moderately limited)	0.46  0.36  0.31	Moderately limited wetness (moderately limited) depth to bedrock (moderately limited) droughty (moderately limited)	0.51  0.46  0.31

Table 11a.--Wildlife Habitat--Continued

Map symbol and soil name	Grain and seed crops (for use as food and cover)		Domestic grasses and legumes (for use as food and cover)		Upland wild herbaceous plants		Upland shrubs and vines		Upland deciduous trees	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73229: Moko-----	Very limited droughty (very limited) shallow to bedrock (very limited) high erodibility (limited)	1.00 1.00 0.80	Very limited droughty (very limited) shallow to bedrock (very limited) high erodibility (limited)	1.00 1.00 0.80	Very limited droughty (very limited) small stones (slightly limited) large stones (slightly limited)	1.00 0.13 0.06	Very limited droughty (very limited) shallow to bedrock (very limited) large stones (slightly limited)	1.00 1.00 0.06	Very limited shallow to bedrock (very limited) droughty (very limited) large stones (slightly limited)	1.00 1.00 0.06
73230: Coulstone----	Very limited droughty (very limited) large stones >35% (very limited) high erodibility (limited)	1.00 0.99 0.80	Very limited droughty (very limited) large stones >35% (very limited) high erodibility (limited)	1.00 0.99 0.80	Very limited droughty (very limited) large stones (limited) small stones (slightly limited)	1.00 0.61 0.02	Very limited droughty (very limited) large stones (limited)	1.00 0.61	Very limited droughty (very limited) large stones (limited)	1.00 0.61
Bender-----	Very limited droughty (very limited) small stones (limited) high erodibility (limited)	1.00 0.81 0.80	Very limited droughty (very limited) small stones (limited) high erodibility (limited)	1.00 0.81 0.80	Very limited droughty (very limited) large stones (slightly limited) small stones (slightly limited)	1.00 0.19 0.17	Very limited droughty (very limited) depth to bedrock (moderately limited) large stones (slightly limited)	1.00 0.32 0.19	Very limited droughty (very limited) depth to bedrock (moderately limited) large stones (slightly limited)	1.00 0.32 0.19
Gatewood-----	Very limited droughty (very limited) small stones (very limited) slope (very limited)	1.00 1.00 1.00	Very limited small stones (very limited) slope (very limited) high erodibility (limited)	1.00 1.00 0.80	Very limited small stones (very limited) wetness (moderately limited) droughty (moderately limited)	1.00 0.36 0.31	Very limited small stones (very limited) depth to bedrock (moderately limited) wetness (moderately limited)	1.00 0.46 0.36	Moderately limited wetness (moderately limited) depth to bedrock (moderately limited) droughty (moderately limited)	0.51 0.46 0.31
73231: Wasola-----	Very limited small stones (very limited) high erodibility (limited) wetness (moderately limited)	1.00 0.80 0.44	Very limited small stones (very limited) high erodibility (limited) wetness (moderately limited)	1.00 0.80 0.44	Limited small stones (limited) wetness (moderately limited)	0.73 0.44	Limited small stones (limited) wetness (moderately limited)	0.73 0.44	Moderately limited wetness (moderately limited)	0.59

Table 11a.--Wildlife Habitat--Continued

Map symbol and soil name	Grain and seed crops (for use as food and cover)		Domestic grasses and legumes (for use as food and cover)		Upland wild herbaceous plants		Upland shrubs and vines		Upland deciduous trees	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73232: Alred-----	Limited small stones (limited) droughty (limited) moderate erodibility (moderately limited)	1.00 0.87 0.50	Limited small stones (limited) moderate erodibility (moderately limited) percs slowly (moderately limited)	1.00 0.50 0.39	Slightly limited small stones (slightly limited)	0.24	Slightly limited small stones (slightly limited)	0.01	Not limited	
Ocie-----	Limited droughty (limited) moderate erodibility (moderately limited) small stones (moderately limited)	0.63 0.50 0.48	Moderately limited moderate erodibility (moderately limited) small stones (moderately limited) percs slowly (moderately limited)	0.50 0.48 0.39	Slightly limited wetness (slightly limited) small stones (slightly limited)	0.28 0.08	Slightly limited wetness (slightly limited)	0.28	Moderately limited wetness (moderately limited)	0.45
73233: Alred-----	Limited small stones (limited) droughty (limited) high erodibility (limited)	1.00 0.87 0.80	Limited small stones (limited) high erodibility (limited) percs slowly (moderately limited)	1.00 0.80 0.39	Slightly limited small stones (slightly limited)	0.24	Slightly limited small stones (slightly limited)	0.01	Not limited	
Ocie-----	Limited high erodibility (limited) droughty (limited) small stones (moderately limited)	0.80 0.63 0.48	Limited high erodibility (limited) small stones (moderately limited) percs slowly (moderately limited)	0.80 0.48 0.39	Slightly limited wetness (slightly limited) small stones (slightly limited)	0.28 0.08	Slightly limited wetness (slightly limited)	0.28	Moderately limited wetness (moderately limited)	0.45
73234: Alred-----	Very limited droughty (very limited) large stones >35% (very limited) high erodibility (limited)	1.00 0.99 0.80	Limited large stones >35% (very limited) high erodibility (limited) slope (moderately limited)	0.99 0.80 0.60	Limited large stones (limited) small stones (slightly limited) droughty (slightly limited)	0.61 0.10 0.02	Limited large stones (limited) droughty (slightly limited)	0.61 0.02	Limited large stones (limited) droughty (slightly limited)	0.61 0.02

Table 11a.--Wildlife Habitat--Continued

Map symbol and soil name	Grain and seed crops (for use as food and cover)		Domestic grasses and legumes (for use as food and cover)		Upland wild herbaceous plants		Upland shrubs and vines		Upland deciduous trees	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73234: Gatewood-----	Very limited small stones (very limited) droughty (very limited) slope (limited)	1.00  1.00  0.91	Very limited small stones (very limited) slope (limited) high erodibility (limited)	1.00  0.91  0.80	Moderately limited small stones (moderately limited) wetness (moderately limited)	0.51  0.36	Moderately limited small stones (moderately limited) wetness (moderately limited) depth to bedrock (slightly limited)	0.45  0.36  0.13	Moderately limited wetness (moderately limited) depth to bedrock (slightly limited)	0.51  0.13
73235: Alred-----	Very limited small stones (very limited) droughty (very limited) high erodibility (limited)	1.00  1.00  0.80	Very limited small stones (very limited) high erodibility (limited) slope (limited)	1.00  0.80  0.68	Limited small stones (limited) droughty (slightly limited)	0.86  0.02	Limited small stones (limited) droughty (slightly limited)	0.87  0.02	Slightly limited droughty (slightly limited)	0.02
73236: Scholten-----	Very limited droughty (very limited) percs slowly (very limited) high erodibility (limited)	1.00  1.00  0.80	Very limited percs slowly (very limited) high erodibility (limited) small stones (limited)	1.00  0.80  0.73	Limited droughty (limited) wetness (moderately limited) small stones (slightly limited)	0.70  0.58  0.15	Limited droughty (limited) wetness (moderately limited)	0.70  0.58	Limited wetness (limited) droughty (limited)	0.93  0.70
Poynor-----	Very limited small stones (very limited) high erodibility (limited) droughty (moderately limited)	1.00  0.80  0.47	Very limited small stones (very limited) high erodibility (limited)	1.00  0.80	Limited small stones (limited)	0.67	Limited small stones (limited)	0.67	Not limited	
73237: Clarksville---	Very limited droughty (very limited) small stones (very limited) high erodibility (limited)	1.00  1.00  0.80	Very limited small stones (very limited) high erodibility (limited) droughty (moderately limited)	1.00  0.80  0.43	Moderately limited small stones (moderately limited) droughty (moderately limited)	0.53  0.43	Moderately limited small stones (moderately limited) droughty (moderately limited)	0.49  0.43	Moderately limited droughty (moderately limited)	0.43



Table 11a.--Wildlife Habitat--Continued

Map symbol and soil name	Grain and seed crops (for use as food and cover)		Domestic grasses and legumes (for use as food and cover)		Upland wild herbaceous plants		Upland shrubs and vines		Upland deciduous trees	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73239: Rueter-----	Very limited droughty (very limited) small stones (very limited) high erodibility (limited)	1.00  1.00  0.80	Very limited small stones (very limited) high erodibility (limited) slope (moderately limited)	1.00  0.80  0.60	Moderately limited small stones (moderately limited) droughty (moderately limited)	0.53  0.43	Moderately limited small stones (moderately limited) droughty (moderately limited)	0.49  0.43	Moderately limited droughty (moderately limited)	0.43
Rock outcrop--	Not rated		Not rated		Not rated		Not rated		Not rated	
73240: Jerktail-----	Limited high erodibility (limited) wetness (moderately limited) percs slowly (moderately limited)	0.80  0.44  0.39	Limited high erodibility (limited) wetness (moderately limited) percs slowly (moderately limited)	0.80  0.44  0.39	Moderately limited wetness (moderately limited)	0.44	Moderately limited wetness (moderately limited)	0.44	Moderately limited wetness (moderately limited)	0.59
73242: Fanchon-----	Moderately limited moderate erodibility (moderately limited)	0.50	Moderately limited moderate erodibility (moderately limited)	0.50	Not limited		Not limited		Not limited	
Tonti-----	Very limited percs slowly (very limited) droughty (limited) wetness (moderately limited)	1.00  0.91  0.56	Very limited percs slowly (very limited) wetness (moderately limited) moderate erodibility (moderately limited)	1.00  0.56  0.50	Moderately limited wetness (moderately limited)	0.56	Moderately limited wetness (moderately limited)	0.56	Limited wetness (limited)	0.88
73243: Topazmill-----	Limited high erodibility (limited)	0.80	Limited high erodibility (limited)	0.80	Not limited		Not limited		Not limited	

Table 11a.--Wildlife Habitat--Continued

Map symbol and soil name	Grain and seed crops (for use as food and cover)		Domestic grasses and legumes (for use as food and cover)		Upland wild herbaceous plants		Upland shrubs and vines		Upland deciduous trees	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73245: Alred-----	Very limited small stones (very limited) droughty (limited) high erodibility (limited)	1.00 0.87 0.80	Very limited small stones (very limited) high erodibility (limited) percs slowly (moderately limited)	1.00 0.80 0.39	Moderately limited small stones (moderately limited)	0.42	Slightly limited small stones (slightly limited)	0.30	Not limited	
73246: Alred-----	Very limited small stones (very limited) droughty (limited) high erodibility (limited)	1.00 0.87 0.80	Very limited small stones (very limited) high erodibility (limited) percs slowly (moderately limited)	1.00 0.80 0.39	Moderately limited small stones (moderately limited)	0.60	Moderately limited small stones (moderately limited)	0.60	Not limited	
73247: Alred-----	Very limited small stones (very limited) droughty (very limited) high erodibility (limited)	1.00 1.00 0.80	Very limited small stones (very limited) high erodibility (limited) slope (moderately limited)	1.00 0.80 0.60	Limited small stones (limited) droughty (slightly limited)	0.89 0.02	Limited small stones (limited) droughty (slightly limited)	0.90 0.02	Slightly limited droughty (slightly limited)	0.02
73248: Alred-----	Very limited droughty (very limited) large stones >35% (very limited) high erodibility (limited)	1.00 0.99 0.80	Limited large stones >35% (very limited) high erodibility (limited) percs slowly (limited)	0.99 0.80 0.70	Limited large stones (limited) small stones (slightly limited) droughty (slightly limited)	0.61 0.13 0.02	Limited large stones (limited) droughty (slightly limited)	0.61 0.02	Limited large stones (limited) droughty (slightly limited)	0.61 0.02
Bendavis-----	Very limited droughty (very limited) small stones (very limited) high erodibility (limited)	1.00 1.00 0.80	Very limited small stones (very limited) high erodibility (limited) depth to bedrock (moderately limited)	1.00 0.80 0.58	Moderately limited small stones (moderately limited) droughty (moderately limited) wetness (slightly limited)	0.60 0.45 0.28	Moderately limited small stones (moderately limited) depth to bedrock (moderately limited) droughty (moderately limited)	0.60 0.58 0.45	Moderately limited depth to bedrock (moderately limited) droughty (moderately limited) wetness (moderately limited)	0.58 0.45 0.45

Table 11a.--Wildlife Habitat--Continued

Map symbol and soil name	Grain and seed crops (for use as food and cover)		Domestic grasses and legumes (for use as food and cover)		Upland wild herbaceous plants		Upland shrubs and vines		Upland deciduous trees	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73249:										
Alred-----	Very limited		Limited		Limited		Limited		Limited	
	droughty	1.00	large stones >35%	0.99	large stones	0.61	large stones	0.61	large stones	0.61
	(very limited)		(very limited)		(limited)		(limited)		(limited)	
	large stones >35%	0.99	high erodibility	0.80	small stones	0.13	droughty	0.02	droughty	0.02
	(very limited)		(limited)		(slightly limited)		(slightly limited)		(slightly limited)	
	high erodibility	0.80	small stones	0.64	droughty	0.02				
	(limited)		(limited)		(slightly limited)					
Ocie-----	Very limited		Very limited		Moderately limited		Slightly limited		Moderately limited	
	small stones	1.00	small stones	1.00	small stones	0.42	small stones	0.30	wetness	0.45
	(very limited)		(very limited)		(moderately limited)		(slightly limited)		(moderately limited)	
	high erodibility	0.80	high erodibility	0.80	wetness	0.28	wetness	0.28		
	(limited)		(limited)		(slightly limited)		(slightly limited)			
	droughty	0.63	slope	0.60						
	(limited)		(moderately limited)							
Bendavis-----	Very limited		Very limited		Limited		Limited		Moderately limited	
	percs slowly	1.00	percs slowly	1.00	small stones	0.67	small stones	0.67	wetness	0.45
	(very limited)		(very limited)		(limited)		(limited)		(moderately limited)	
	small stones	1.00	small stones	1.00	wetness	0.28	wetness	0.28	depth to bedrock	0.13
	(very limited)		(very limited)		(slightly limited)		(slightly limited)		(slightly limited)	
	slope	0.91	slope	0.91			depth to bedrock	0.13		
	(limited)		(limited)				(slightly limited)			
74626:										
Tanglenook----	Very limited		Very limited		Very limited		Very limited		Very limited	
	wetness	1.00	wetness	1.00	wetness	1.00	wetness	1.00	wetness	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	percs slowly	0.39	percs slowly	0.39						
	(moderately limited)		(moderately limited)							
74657:										
Pomme-----	Moderately limited		Moderately limited		Not limited		Not limited		Not limited	
	moderate erodibility	0.50	moderate erodibility	0.50						
	(moderately limited)		(moderately limited)							
	droughty	0.02								
	(slightly limited)									
74658:										
Zanoni-----	Slightly limited		Not limited		Not limited		Not limited		Not limited	
	droughty	0.26								
	(slightly limited)									

Table 11a.--Wildlife Habitat--Continued

Map symbol and soil name	Grain and seed crops (for use as food and cover)		Domestic grasses and legumes (for use as food and cover)		Upland wild herbaceous plants		Upland shrubs and vines		Upland deciduous trees	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
75382: Cedargap-----	Limited flooding (limited) small stones (moderately limited) droughty (slightly limited)	0.90 0.48 0.22	Limited flooding (limited) small stones (moderately limited)	0.90 0.48	Slightly limited small stones (slightly limited)	0.08	Not limited		Not limited	
75390: Razort-----	Not limited		Not limited		Not limited		Not limited		Not limited	
75406: Racket-----	Limited flooding (limited)	0.90	Limited flooding (limited)	0.90	Not limited		Not limited		Not limited	
75417: Relfe-----	Very limited droughty (very limited) small stones (very limited) flooding (limited)	1.00 1.00 0.90	Very limited droughty (very limited) small stones (very limited) flooding (limited)	1.00 1.00 0.90	Very limited droughty (very limited) small stones (moderately limited)	1.00 0.56	Very limited droughty (very limited) small stones (moderately limited)	1.00 0.53	Very limited droughty (very limited)	1.00
Sandbur-----	Limited flooding (limited) droughty (moderately limited)	0.90 0.34	Limited flooding (limited)	0.90	Not limited		Not limited		Not limited	
75422: Secesh-----	Limited droughty (limited) flooding (moderately limited)	0.68 0.60	Moderately limited flooding (moderately limited)	0.60	Not limited		Not limited		Not limited	

Table 11a.--Wildlife Habitat--Continued

Map symbol and soil name	Grain and seed crops (for use as food and cover)		Domestic grasses and legumes (for use as food and cover)		Upland wild herbaceous plants		Upland shrubs and vines		Upland deciduous trees	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
75423: Cedargap-----	Very limited small stones (very limited) droughty (very limited) flooding (moderately limited)	1.00  1.00  0.60	Very limited small stones (very limited) flooding (moderately limited) droughty (slightly limited)	1.00  0.60  0.17	Moderately limited small stones (moderately limited) droughty (slightly limited)	0.60  0.17	Moderately limited small stones (moderately limited) droughty (slightly limited)	0.60  0.17	Slightly limited droughty (slightly limited)	0.17
75424: Sandbur-----	Limited flooding (limited) droughty (moderately limited)	0.90  0.34	Limited flooding (limited)	0.90	Not limited		Not limited		Not limited	
99001: Water-----	Not rated		Not rated		Not rated		Not rated		Not rated	
99002: Borrow areas--	Not rated		Not rated		Not rated		Not rated		Not rated	

Table 11b.--Wildlife Habitat

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Upland mixed deciduous-conifer trees		Riparian herbaceous plants		Riparian shrubs, vines, and trees		Freshwater wetland plants		Irrigated freshwater wetland plants	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
70026: Tonti-----	Moderately limited wetness (moderately limited)	0.59	Limited infrequent flooding (limited) deep to water (moderately limited)	0.80 0.45	Not limited		Moderately limited deep to water (moderately limited)	0.45	Not limited	
73000: Pomme-----	Not limited		Limited infrequent flooding (limited)	0.80	Not limited		Not limited		Moderately limited seepage (moderately limited) slope (moderately limited)	0.45 0.31
73015: Viraton-----	Very limited wetness (very limited)	1.00	Limited infrequent flooding (limited)	0.80	Not limited		Not limited		Not limited	
73017: Bendavis-----	Moderately limited wetness (moderately limited) depth to bedrock (slightly limited)	0.45 0.13	Limited infrequent flooding (limited) small stones (limited) deep to water (limited)	0.80 0.67 0.61	Limited small stones (limited)	0.67	Limited deep to water (limited) soil reaction (slightly limited)	0.61 0.18	Very limited slope (very limited) soil reaction (slightly limited)	1.00 0.18
Poynor-----	Moderately limited droughty (moderately limited)	0.57	Limited infrequent flooding (limited) small stones (limited)	0.80 0.73	Limited small stones (limited) droughty (moderately limited)	0.73 0.57	Not limited		Very limited slope (very limited) seepage (moderately limited)	1.00 0.45
73019: Poynor-----	Moderately limited droughty (moderately limited)	0.57	Limited infrequent flooding (limited) small stones (limited)	0.80 0.67	Limited small stones (limited) droughty (moderately limited)	0.67 0.57	Not limited		Limited slope (limited) seepage (moderately limited)	0.91 0.45



Table 11b.--Wildlife Habitat--Continued

Map symbol and soil name	Upland mixed deciduous- conifer trees		Riparian herbaceous plants		Riparian shrubs, vines, and trees		Freshwater wetland plants		Irrigated freshwater wetland plants	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73023:										
Mano-----	Moderately limited wetness (moderately limited)	0.45	Limited infrequent flooding (limited) deep to water (limited)	0.80 0.61	Not limited		Limited deep to water (limited)	0.61	Limited slope (limited)	0.66
Ocie-----	Moderately limited wetness (moderately limited)	0.45	Limited infrequent flooding (limited) deep to water (limited) small stones (slightly limited)	0.80 0.61 0.30	Slightly limited small stones (slightly limited)	0.30	Limited deep to water (limited)	0.61	Limited slope (limited)	0.66
73024:										
Mano-----	Moderately limited wetness (moderately limited)	0.45	Limited infrequent flooding (limited) deep to water (limited) small stones (slightly limited)	0.80 0.61 0.01	Slightly limited small stones (slightly limited)	0.01	Limited deep to water (limited)	0.61	Very limited slope (very limited)	1.00
Ocie-----	Moderately limited wetness (moderately limited)	0.45	Limited infrequent flooding (limited) deep to water (limited) small stones (slightly limited)	0.80 0.61 0.30	Slightly limited small stones (slightly limited)	0.30	Limited deep to water (limited)	0.61	Very limited slope (very limited)	1.00
73069:										
Tick-----	Not limited		Limited small stones (limited) infrequent flooding (limited)	0.94 0.80	Limited small stones (limited)	0.94	Not limited		Very limited slope (very limited)	1.00

Table 11b.--Wildlife Habitat--Continued

Map symbol and soil name	Upland mixed deciduous-conifer trees		Riparian herbaceous plants		Riparian shrubs, vines, and trees		Freshwater wetland plants		Irrigated freshwater wetland plants	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73073: Scholten-----	Limited wetness (limited) droughty (limited)	0.93 0.70	Limited infrequent flooding (limited) deep to water (moderately limited) small stones (slightly limited)	0.80 0.32 0.30	Limited droughty (limited) small stones (slightly limited)	0.70 0.30	Moderately limited deep to water (moderately limited)	0.32	Very limited slope (very limited)	1.00
Poynor-----	Limited droughty (limited)	0.75	Limited infrequent flooding (limited) small stones (moderately limited)	0.80 0.60	Limited droughty (limited) small stones (moderately limited)	0.75 0.60	Not limited		Very limited slope (very limited) seepage (slightly limited)	1.00 0.14
73076: Mano-----	Moderately limited wetness (moderately limited)	0.45	Limited infrequent flooding (limited) deep to water (limited) small stones (slightly limited)	0.80 0.61 0.30	Slightly limited small stones (slightly limited)	0.30	Limited deep to water (limited)	0.61	Very limited slope (very limited)	1.00
Ocie-----	Moderately limited wetness (moderately limited)	0.45	Limited infrequent flooding (limited) deep to water (limited) small stones (slightly limited)	0.80 0.61 0.30	Slightly limited small stones (slightly limited)	0.30	Limited deep to water (limited)	0.61	Very limited slope (very limited)	1.00
73198: Gressy-----	Not limited		Limited infrequent flooding (limited)	0.80	Not limited		Not limited		Moderately limited seepage (moderately limited) slope (moderately limited)	0.48 0.31
Viraton-----	Moderately limited wetness (moderately limited)	0.59	Limited infrequent flooding (limited) deep to water (moderately limited)	0.80 0.45	Not limited		Moderately limited deep to water (moderately limited)	0.45	Moderately limited slope (moderately limited)	0.31

Table 11b.--Wildlife Habitat--Continued

Map symbol and soil name	Upland mixed deciduous- conifer trees		Riparian herbaceous plants		Riparian shrubs, vines, and trees		Freshwater wetland plants		Irrigated freshwater wetland plants	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73199: Moko-----	Very limited shallow to bedrock (very limited) droughty (very limited) large stones (limited)	1.00 1.00 0.61	Limited infrequent flooding (limited) large stones (limited)	0.80 0.61	Very limited droughty (very limited) large stones (limited)	1.00 0.61	Not limited		Very limited slope (very limited) seepage (moderately limited)	1.00 0.45
Rock outcrop--	Not rated		Not rated		Not rated		Not rated		Not rated	
73220: Poynor-----	Moderately limited droughty (moderately limited)	0.57	Very limited small stones (very limited) infrequent flooding (limited)	1.00 0.80	Very limited small stones (very limited) droughty (moderately limited)	1.00 0.57	Not limited		Very limited slope (very limited) seepage (slightly limited)	1.00 0.14
73221: Poynor-----	Moderately limited droughty (moderately limited)	0.57	Limited small stones (limited) infrequent flooding (limited)	0.81 0.80	Limited small stones (limited) droughty (moderately limited)	0.81 0.57	Not limited		Very limited slope (very limited) seepage (slightly limited)	1.00 0.14
73222: Splitlimb----	Limited wetness (limited) seasonally ponded (limited)	0.85 0.80	Limited seasonally ponded (limited) infrequent flooding (limited) deep to water (moderately limited)	0.80 0.80 0.35	Limited seasonally ponded (limited)	0.80	Limited seasonally ponded (limited) deep to water (moderately limited)	0.80 0.35	Limited seasonally ponded (limited) seepage (slightly limited)	0.80 0.18
73223: Coulstone-----	Very limited droughty (very limited)	1.00	Limited infrequent flooding (limited) small stones (moderately limited)	0.80 0.60	Very limited droughty (very limited) small stones (moderately limited)	1.00 0.60	Not limited		Very limited slope (very limited) seepage (limited)	1.00 0.79

Table 11b.--Wildlife Habitat--Continued

Map symbol and soil name	Upland mixed deciduous- conifer trees		Riparian herbaceous plants		Riparian shrubs, vines, and trees		Freshwater wetland plants		Irrigated freshwater wetland plants	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73223: Bender-----	Very limited droughty (very limited) large stones (moderately limited) depth to bedrock (moderately limited)	1.00  0.40  0.32	Limited infrequent flooding (limited) large stones (moderately limited)	0.80  0.40	Very limited droughty (very limited) large stones (moderately limited)	1.00  0.40	Not limited		Very limited slope (very limited) seepage (limited)	1.00   0.89
73224: Moko-----	Very limited shallow to bedrock (very limited) droughty (very limited) large stones (slightly limited)	1.00  1.00  0.06	Limited infrequent flooding (limited) large stones (slightly limited)	0.80  0.06	Very limited droughty (very limited) large stones (slightly limited)	1.00  0.06	Not limited		Very limited slope (very limited) seepage (moderately limited)	1.00   0.45
Rock outcrop--	Not rated		Not rated		Not rated		Not rated		Not rated	
73225: Ocie-----	Moderately limited wetness (moderately limited)	0.45	Limited infrequent flooding (limited) deep to water (limited)	0.80  0.61	Not limited		Limited deep to water (limited)	0.61	Limited slope (limited)	0.91
Gatewood-----	Moderately limited wetness (moderately limited) depth to bedrock (moderately limited) droughty (moderately limited)	0.51  0.46  0.31	Limited infrequent flooding (limited) deep to water (moderately limited) small stones (slightly limited)	0.80  0.53  0.30	Moderately limited droughty (moderately limited) small stones (slightly limited)	0.31  0.30	Moderately limited deep to water (moderately limited)	0.53	Limited slope (limited)	0.91
73226: Ocie-----	Moderately limited wetness (moderately limited)	0.45	Limited infrequent flooding (limited) deep to water (limited) small stones (slightly limited)	0.80  0.61  0.30	Slightly limited small stones (slightly limited)	0.30	Limited deep to water (limited)	0.61	Very limited slope (very limited)	1.00

Table 11b.--Wildlife Habitat--Continued

Map symbol and soil name	Upland mixed deciduous- conifer trees		Riparian herbaceous plants		Riparian shrubs, vines, and trees		Freshwater wetland plants		Irrigated freshwater wetland plants	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73226: Gatewood-----	Moderately limited wetness (moderately limited) depth to bedrock (moderately limited) droughty (moderately limited)	0.51 0.46 0.31	Limited infrequent flooding (limited) deep to water (moderately limited) small stones (slightly limited)	0.80 0.53 0.30	Moderately limited droughty (moderately limited) small stones (slightly limited)	0.31 0.30	Moderately limited deep to water (moderately limited)	0.53	Very limited slope (very limited)	1.00
73227: Ocie-----	Moderately limited wetness (moderately limited)	0.45	Limited infrequent flooding (limited) deep to water (limited) small stones (slightly limited)	0.80 0.61 0.30	Slightly limited small stones (slightly limited)	0.30	Limited deep to water (limited)	0.61	Very limited slope (very limited)	1.00
Gatewood-----	Moderately limited wetness (moderately limited) depth to bedrock (slightly limited)	0.51 0.13	Limited infrequent flooding (limited) deep to water (moderately limited) small stones (moderately limited)	0.80 0.53 0.45	Moderately limited small stones (moderately limited)	0.45	Moderately limited deep to water (moderately limited)	0.53	Very limited slope (very limited)	1.00
73228: Gatewood-----	Moderately limited wetness (moderately limited) depth to bedrock (moderately limited) droughty (moderately limited)	0.51 0.46 0.31	Limited infrequent flooding (limited) deep to water (moderately limited) small stones (slightly limited)	0.80 0.53 0.30	Moderately limited droughty (moderately limited) small stones (slightly limited)	0.31 0.30	Moderately limited deep to water (moderately limited)	0.53	Very limited slope (very limited)	1.00
Moko-----	Very limited shallow to bedrock (very limited) droughty (very limited) large stones (slightly limited)	1.00 1.00 0.06	Limited infrequent flooding (limited) large stones (slightly limited)	0.80 0.06	Very limited droughty (very limited) large stones (slightly limited)	1.00 0.06	Not limited		Very limited slope (very limited) seepage (moderately limited)	1.00 0.45

Table 11b.--Wildlife Habitat--Continued

Map symbol and soil name	Upland mixed deciduous-conifer trees		Riparian herbaceous plants		Riparian shrubs, vines, and trees		Freshwater wetland plants		Irrigated freshwater wetland plants	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73229: Gatewood-----	Moderately limited wetness (moderately limited)	0.51	Limited infrequent flooding (limited)	0.80	Moderately limited droughty (moderately limited)	0.31	Moderately limited deep to water (moderately limited)	0.53	Very limited slope (very limited)	1.00
	depth to bedrock (moderately limited)	0.46	deep to water (moderately limited)	0.53						
	droughty (moderately limited)	0.31								
Moko-----	Very limited shallow to bedrock (very limited)	1.00	Limited infrequent flooding (limited)	0.80	Very limited droughty (very limited)	1.00	Not limited		Very limited slope (very limited)	1.00
	droughty (very limited)	1.00	large stones (slightly limited)	0.06	large stones (slightly limited)	0.06			seepage (moderately limited)	0.45
	large stones (slightly limited)	0.06								
73230: Coulstone-----	Very limited droughty (very limited)	1.00	Limited infrequent flooding (limited)	0.80	Very limited droughty (very limited)	1.00	Not limited		Very limited slope (very limited)	1.00
	large stones (limited)	0.61	large stones (limited)	0.61	large stones (limited)	0.61			seepage (limited)	0.79
Bender-----	Very limited droughty (very limited)	1.00	Limited infrequent flooding (limited)	0.80	Very limited droughty (very limited)	1.00	Not limited		Very limited slope (very limited)	1.00
	depth to bedrock (moderately limited)	0.32	large stones (slightly limited)	0.19	large stones (slightly limited)	0.19			seepage (limited)	0.89
	large stones (slightly limited)	0.19								
Gatewood-----	Moderately limited wetness (moderately limited)	0.51	Very limited small stones (very limited)	1.00	Very limited small stones (very limited)	1.00	Moderately limited deep to water (moderately limited)	0.53	Very limited slope (very limited)	1.00
	depth to bedrock (moderately limited)	0.46	infrequent flooding (limited)	0.80	droughty (moderately limited)	0.31				
	droughty (moderately limited)	0.31	deep to water (moderately limited)	0.53						



Table 11b.--Wildlife Habitat--Continued

Map symbol and soil name	Upland mixed deciduous- conifer trees		Riparian herbaceous plants		Riparian shrubs, vines, and trees		Freshwater wetland plants		Irrigated freshwater wetland plants	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73231: Wasola-----	Moderately limited wetness (moderately limited)	0.59	Limited infrequent flooding (limited) small stones (limited) deep to water (moderately limited)	0.80 0.73 0.45	Limited small stones (limited)	0.73	Moderately limited deep to water (moderately limited)	0.45	Moderately limited slope (moderately limited)	0.31
73232: Alred-----	Not limited		Limited infrequent flooding (limited) small stones (slightly limited)	0.80 0.01	Slightly limited small stones (slightly limited)	0.01	Not limited		Limited slope (limited)	0.66
Ocie-----	Moderately limited wetness (moderately limited)	0.45	Limited infrequent flooding (limited) deep to water (limited)	0.80 0.61	Not limited		Limited deep to water (limited)	0.61	Limited slope (limited)	0.66
73233: Alred-----	Not limited		Limited infrequent flooding (limited) small stones (slightly limited)	0.80 0.01	Slightly limited small stones (slightly limited)	0.01	Not limited		Very limited slope (very limited)	1.00
Ocie-----	Moderately limited wetness (moderately limited)	0.45	Limited infrequent flooding (limited) deep to water (limited)	0.80 0.61	Not limited		Limited deep to water (limited)	0.61	Very limited slope (very limited)	1.00
73234: Alred-----	Limited large stones (limited) droughty (slightly limited)	0.61 0.02	Limited infrequent flooding (limited) large stones (limited)	0.80 0.61	Limited large stones (limited) droughty (slightly limited)	0.61 0.02	Not limited		Very limited slope (very limited)	1.00

Table 11b.--Wildlife Habitat--Continued

Map symbol and soil name	Upland mixed deciduous- conifer trees		Riparian herbaceous plants		Riparian shrubs, vines, and trees		Freshwater wetland plants		Irrigated freshwater wetland plants	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73234: Gatewood-----	Moderately limited wetness (moderately limited) depth to bedrock (slightly limited)	0.51  0.13	Limited infrequent flooding (limited) deep to water (moderately limited) small stones (moderately limited)	0.80  0.53  0.45	Moderately limited small stones (moderately limited)	0.45	Moderately limited deep to water (moderately limited)	0.53	Very limited slope (very limited)	1.00
73235: Alred-----	Slightly limited droughty (slightly limited)	0.02	Limited small stones (limited) infrequent flooding (limited)	0.87  0.80	Limited small stones (limited) droughty (slightly limited)	0.87  0.02	Not limited		Very limited slope (very limited)	1.00
73236: Scholten-----	Limited wetness (limited) droughty (limited)	0.93  0.70	Limited infrequent flooding (limited) deep to water (moderately limited)	0.80  0.32	Limited droughty (limited)	0.70	Moderately limited deep to water (moderately limited)	0.32	Limited slope (limited)	0.91
Poynor-----	Not limited		Limited infrequent flooding (limited) small stones (limited)	0.80  0.67	Limited small stones (limited)	0.67	Not limited		Limited slope (limited) seepage (moderately limited)	0.66  0.36
73237: Clarksville---	Moderately limited droughty (moderately limited)	0.43	Limited infrequent flooding (limited) small stones (moderately limited)	0.80  0.49	Moderately limited small stones (moderately limited) droughty (moderately limited)	0.49  0.43	Slightly limited soil reaction (slightly limited)	0.18	Very limited slope (very limited) seepage (limited) soil reaction (slightly limited)	1.00  0.79  0.18

Table 11b.--Wildlife Habitat--Continued

Map symbol and soil name	Upland mixed deciduous- conifer trees		Riparian herbaceous plants		Riparian shrubs, vines, and trees		Freshwater wetland plants		Irrigated freshwater wetland plants	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73239: Rueter-----	Moderately limited droughty (moderately limited)	0.43	Limited infrequent flooding (limited) small stones (moderately limited)	0.80 0.49	Moderately limited small stones (moderately limited) droughty (moderately limited)	0.49 0.43	Slightly limited soil reaction (slightly limited)	0.18	Very limited slope (very limited) seepage (limited) soil reaction (slightly limited)	1.00 0.79 0.18
Rock outcrop--	Not rated		Not rated		Not rated		Not rated		Not rated	
73240: Jerktail-----	Moderately limited wetness (moderately limited)	0.59	Limited infrequent flooding (limited) deep to water (moderately limited)	0.80 0.45	Not limited		Moderately limited deep to water (moderately limited)	0.45	Limited slope (limited)	0.66
73242: Fanchon-----	Not limited		Limited infrequent flooding (limited)	0.80	Not limited		Not limited		Moderately limited seepage (moderately limited) slope (moderately limited)	0.45 0.31
Tonti-----	Limited wetness (limited)	0.88	Limited infrequent flooding (limited) deep to water (moderately limited)	0.80 0.34	Not limited		Moderately limited deep to water (moderately limited)	0.34	Moderately limited slope (moderately limited)	0.31
73243: Topazmill-----	Not limited		Limited infrequent flooding (limited)	0.80	Not limited		Not limited		Moderately limited seepage (moderately limited) slope (moderately limited)	0.45 0.31
73245: Alred-----	Not limited		Limited infrequent flooding (limited) small stones (slightly limited)	0.80 0.30	Slightly limited small stones (slightly limited)	0.30	Not limited		Limited slope (limited)	0.66

Table 11b.--Wildlife Habitat--Continued

Map symbol and soil name	Upland mixed deciduous- conifer trees		Riparian herbaceous plants		Riparian shrubs, vines, and trees		Freshwater wetland plants		Irrigated freshwater wetland plants	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73246: Alred-----	Not limited		Limited infrequent flooding (limited) small stones (moderately limited)	0.80 0.60	Moderately limited small stones (moderately limited)	0.60	Not limited		Very limited slope (very limited)	1.00
73247: Alred-----	Slightly limited droughty (slightly limited)	0.02	Limited small stones (limited) infrequent flooding (limited)	0.90 0.80	Limited small stones (limited) droughty (slightly limited)	0.90 0.02	Not limited		Very limited slope (very limited)	1.00
73248: Alred-----	Limited large stones (limited) droughty (slightly limited)	0.61 0.02	Limited infrequent flooding (limited) large stones (limited)	0.80 0.61	Limited large stones (limited) droughty (slightly limited)	0.61 0.02	Not limited		Very limited slope (very limited)	1.00
Bendavis-----	Moderately limited depth to bedrock (moderately limited) droughty (moderately limited) wetness (moderately limited)	0.58 0.45 0.45	Limited infrequent flooding (limited) deep to water (limited) small stones (moderately limited)	0.80 0.61 0.60	Moderately limited small stones (moderately limited) droughty (moderately limited)	0.60 0.45	Limited deep to water (limited)	0.61	Very limited slope (very limited) seepage (moderately limited)	1.00 0.45
73249: Alred-----	Limited large stones (limited) droughty (slightly limited)	0.61 0.02	Limited infrequent flooding (limited) large stones (limited)	0.80 0.61	Limited large stones (limited) droughty (slightly limited)	0.61 0.02	Not limited		Very limited slope (very limited)	1.00
Ocie-----	Moderately limited wetness (moderately limited)	0.45	Limited infrequent flooding (limited) deep to water (limited) small stones (slightly limited)	0.80 0.61 0.30	Slightly limited small stones (slightly limited)	0.30	Limited deep to water (limited)	0.61	Very limited slope (very limited)	1.00

Table 11b.--Wildlife Habitat--Continued

Map symbol and soil name	Upland mixed deciduous- conifer trees		Riparian herbaceous plants		Riparian shrubs, vines, and trees		Freshwater wetland plants		Irrigated freshwater wetland plants	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73249: Bendavis-----	Moderately limited wetness (moderately limited) depth to bedrock (slightly limited)	0.45  0.13	Limited infrequent flooding (limited) small stones (limited) deep to water (limited)	0.80  0.67  0.61	Limited small stones (limited)	0.67	Limited deep to water (limited)	0.61	Very limited slope (very limited)	1.00
74626: Tanglenook----	Very limited wetness (very limited)	1.00	Not limited		Not limited		Not limited		Not limited	
74657: Pomme-----	Not limited		Limited infrequent flooding (limited)	0.80	Not limited		Not limited		Limited slope (limited) seepage (moderately limited)	0.66  0.45
74658: Zanoni-----	Not limited		Not limited		Not limited		Not limited		Limited seepage (limited)	0.82
75382: Cedargap-----	Not limited		Very limited deep to water (very limited)	1.00	Very limited deep to water (very limited)	1.00	Very limited deep to water (very limited)	1.00	Very limited deep to water (very limited) seepage (moderately limited)	1.00  0.45
75390: Razort-----	Not limited		Not limited		Not limited		Not limited		Moderately limited seepage (moderately limited)	0.45
75406: Racket-----	Not limited		Very limited deep to water (very limited)	1.00	Very limited deep to water (very limited)	1.00	Very limited deep to water (very limited)	1.00	Very limited deep to water (very limited) seepage (moderately limited)	1.00  0.48

Table 11b.--Wildlife Habitat--Continued

Map symbol and soil name	Upland mixed deciduous- conifer trees		Riparian herbaceous plants		Riparian shrubs, vines, and trees		Freshwater wetland plants		Irrigated freshwater wetland plants	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
75417: Relfe-----	Very limited droughty (very limited)	1.00	Moderately limited small stones (moderately limited)	0.53	Very limited droughty (very limited) small stones (moderately limited)	1.00 0.53	Not limited		Limited seepage (limited)	0.75
Sandbur-----	Not limited		Not limited		Not limited		Not limited		Limited seepage (limited)	0.79
75422: Secesh-----	Not limited		Moderately limited infrequent flooding (moderately limited)	0.50	Not limited		Not limited		Moderately limited seepage (moderately limited)	0.45
75423: Cedargap-----	Slightly limited droughty (slightly limited)	0.17	Moderately limited small stones (moderately limited) infrequent flooding (moderately limited)	0.60 0.50	Moderately limited small stones (moderately limited) droughty (slightly limited)	0.60 0.17	Not limited		Limited seepage (limited)	0.68
75424: Sandbur-----	Not limited		Moderately limited infrequent flooding (moderately limited)	0.50	Not limited		Not limited		Limited seepage (limited)	0.79
99001: Water-----	Not rated		Not rated		Not rated		Not rated		Not rated	
99002: Borrow areas--	Not rated		Not rated		Not rated		Not rated		Not rated	



Table 12.--Building Site Development

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings		Local roads and streets		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
70026: Tonti-----	Moderately limited wetness (moderately limited)	0.59	Very limited wetness (very limited) shrink-swell (slightly limited)	1.00 0.04	Slightly limited wetness (slightly limited)	0.28	Slightly limited wetness (slightly limited)	0.28	Slightly limited too acid (slightly limited) wetness (slightly limited)	0.30 0.28
73000: Pomme-----	Not limited		Not limited		Slightly limited slope (slightly limited)	0.15	Not limited		Not limited	
73015: Viraton-----	Very limited wetness (very limited)	1.00	Very limited wetness (very limited) shrink-swell (slightly limited)	1.00 0.20	Very limited wetness (very limited)	1.00	Very limited wetness (very limited)	1.00	Very limited wetness (very limited) too acid (moderately limited)	1.00 0.42
73017: Bendavis-----	Very limited slope (very limited) wetness (moderately limited) depth to bedrock (slightly limited)	1.00 0.45 0.25	Very limited hard bedrock <40" (very limited) slope (very limited) wetness (very limited)	1.00 1.00 1.00	Very limited slope (very limited) depth to bedrock (slightly limited)	1.00 0.25	Very limited slope (very limited) depth to bedrock (slightly limited)	1.00 0.25	Very limited slope (very limited) small stones (very limited) too acid (limited)	1.00 1.00 0.84
Poynor-----	Very limited slope (very limited)	1.00	Very limited slope (very limited) shrink-swell (slightly limited)	1.00 0.14	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited) small stones (very limited) too acid (limited)	1.00 1.00 0.61

Table 12.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings		Local roads and streets		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73019: Poynor-----	Not limited		Slightly limited shrink-swell (slightly limited)	0.14	Limited slope (limited)	0.68	Not limited		Very limited small stones (very limited) droughty (moderately limited) too acid (slightly limited)	1.00 0.57 0.30
73023: Mano-----	Moderately limited wetness (moderately limited)	0.45	Very limited wetness (very limited) shrink-swell (moderately limited)	1.00 0.50	Moderately limited slope (moderately limited)	0.45	Not limited		Moderately limited small stones (moderately limited) too acid (slightly limited)	0.48 0.30
Ocie-----	Very limited shrink-swell (very limited) wetness (moderately limited)	1.00 0.45	Very limited wetness (very limited) shrink-swell (limited) depth to bedrock (moderately limited)	1.00 0.71 0.42	Very limited shrink-swell (very limited) slope (moderately limited)	1.00 0.45	Very limited low strength (very limited) shrink-swell (very limited)	1.00 1.00	Very limited small stones (very limited)	1.00
73024: Mano-----	Limited slope (limited) wetness (moderately limited)	0.76 0.45	Very limited wetness (very limited) slope (limited) shrink-swell (moderately limited)	1.00 0.76 0.50	Very limited slope (very limited)	1.00	Limited slope (limited)	0.63	Very limited small stones (limited) slope (limited) too acid (slightly limited)	1.00 0.63 0.30
Ocie-----	Very limited shrink-swell (very limited) slope (limited) wetness (moderately limited)	1.00 0.76 0.45	Very limited wetness (very limited) slope (limited) shrink-swell (limited)	1.00 0.76 0.71	Very limited slope (very limited) shrink-swell (very limited)	1.00 1.00	Very limited low strength (very limited) shrink-swell (very limited) slope (limited)	1.00 1.00 0.63	Very limited small stones (very limited) slope (limited)	1.00 0.63

Table 12.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings		Local roads and streets		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73069: Tick-----	Very limited slope (very limited) shrink-swell (moderately limited)	1.00  0.45	Very limited slope (very limited) shrink-swell (slightly limited)	1.00  0.30	Very limited slope (very limited) shrink-swell (moderately limited)	1.00  0.45	Very limited low strength (very limited) slope (very limited) shrink-swell (moderately limited)	1.00  1.00  0.45	Very limited slope (very limited) small stones (very limited) too acid (moderately limited)	1.00  1.00  0.36
73073: Scholten-----	Limited wetness (limited) slope (limited) shrink-swell (moderately limited)	0.93  0.76  0.45	Very limited wetness (very limited) slope (limited) shrink-swell (slightly limited)	1.00  0.76  0.25	Very limited slope (very limited) wetness (moderately limited) shrink-swell (moderately limited)	1.00  0.56  0.45	Limited slope (limited) wetness (moderately limited) shrink-swell (moderately limited)	0.63  0.56  0.45	Very limited small stones (very limited) droughty (limited) slope (limited)	1.00  0.70  0.63
Poynor-----	Limited slope (limited)	0.76	Limited slope (limited) shrink-swell (slightly limited)	0.76  0.14	Very limited slope (very limited)	1.00	Limited slope (limited)	0.63	Very limited small stones (very limited) droughty (limited) slope (limited)	1.00  0.75  0.63
73076: Mano-----	Very limited slope (very limited) wetness (moderately limited)	1.00  0.45	Very limited slope (very limited) wetness (very limited) shrink-swell (moderately limited)	1.00  1.00  0.50	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited) small stones (very limited) too acid (slightly limited)	1.00  1.00  0.30
Ocie-----	Very limited shrink-swell (very limited) slope (very limited) wetness (moderately limited)	1.00  1.00  0.45	Very limited slope (very limited) wetness (very limited) shrink-swell (limited)	1.00  1.00  0.71	Very limited slope (very limited) shrink-swell (very limited)	1.00  1.00	Very limited low strength (very limited) slope (very limited) shrink-swell (very limited)	1.00  1.00  1.00	Very limited slope (very limited) small stones (very limited)	1.00  1.00

Table 12.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings		Local roads and streets		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73198: Gressy-----	Not limited		Slightly limited shrink-swell (slightly limited)	0.18	Slightly limited slope (slightly limited)	0.15	Slightly limited low strength (slightly limited)	0.22	Not limited	
Viraton-----	Moderately limited wetness (moderately limited)	0.59	Very limited wetness (very limited) shrink-swell (slightly limited)	1.00 0.20	Slightly limited wetness (slightly limited) slope (slightly limited)	0.28 0.15	Slightly limited wetness (slightly limited)	0.28	Moderately limited too acid (moderately limited) wetness (slightly limited)	0.42 0.28
73199: Moko-----	Very limited hard bedrock <20" (very limited) large stones (limited) slope (moderately limited)	1.00 0.99 0.45	Very limited hard bedrock <40" (very limited) large stones (limited) slope (moderately limited)	1.00 0.99 0.45	Very limited hard bedrock <20" (very limited) slope (very limited) large stones (limited)	1.00 1.00 0.99	Very limited hard bedrock <20" (very limited) large stones (limited) low strength (slightly limited)	1.00 0.99 0.22	Very limited large stones >30% (very limited) shallow to bedrock (very limited) droughty (very limited)	1.00 1.00 1.00
Rock outcrop--	Not rated		Not rated		Not rated		Not rated		Not rated	
73220: Poynor-----	Limited slope (limited)	0.76	Limited slope (limited) shrink-swell (slightly limited)	0.76 0.14	Very limited slope (very limited)	1.00	Limited slope (limited)	0.63	Very limited small stones (very limited) slope (limited) droughty (moderately limited)	1.00 0.63 0.57
73221: Poynor-----	Limited slope (limited)	0.99	Limited slope (limited) shrink-swell (slightly limited)	0.99 0.14	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited small stones (very limited) slope (very limited) too acid (limited)	1.00 1.00 0.61

Table 12.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings		Local roads and streets		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73222: Splitlimb-----	Very limited ponded (very limited) wetness (limited) shrink-swell (moderately limited)	1.00  0.85  0.45	Very limited ponded (very limited) wetness (very limited) shrink-swell (moderately limited)	1.00  1.00  0.45	Very limited ponded (wetness) (very limited) wetness (moderately limited) shrink-swell (moderately limited)	1.00  0.49  0.45	Very limited low strength (very limited) ponded (wetness) (very limited) wetness (moderately limited)	1.00  1.00  0.49	Very limited ponded (wetness) (very limited) wetness (moderately limited)	1.00  0.49
73223: Coulstone-----	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited) small stones (very limited) droughty (very limited)	1.00  1.00  1.00
Bender-----	Very limited slope (very limited) large stones (limited) depth to bedrock (moderately limited)	1.00  0.76  0.46	Very limited hard bedrock <40" (very limited) slope (very limited) large stones (limited)	1.00  1.00  0.76	Very limited slope (very limited) large stones (limited) depth to bedrock (moderately limited)	1.00  0.76  0.46	Very limited slope (very limited) large stones (limited) depth to bedrock (moderately limited)	1.00  0.76  0.46	Very limited slope (very limited) droughty (very limited) large stones >30% (very limited)	1.00  1.00  1.00
73224: Moko-----	Very limited hard bedrock <20" (very limited) slope (very limited) large stones (limited)	1.00  1.00  0.86	Very limited hard bedrock <40" (very limited) slope (very limited) large stones (limited)	1.00  1.00  0.86	Very limited hard bedrock <20" (very limited) slope (very limited) large stones (limited)	1.00  1.00  0.86	Very limited hard bedrock <20" (very limited) slope (very limited) large stones (limited)	1.00  1.00  0.86	Very limited slope (very limited) shallow to bedrock (very limited) droughty (very limited)	1.00  1.00  1.00
Rock outcrop--	Not rated		Not rated		Not rated		Not rated		Not rated	
73225: Ocie-----	Very limited shrink-swell (very limited) wetness (moderately limited)	1.00  0.45	Very limited wetness (very limited) shrink-swell (limited) depth to bedrock (moderately limited)	1.00  0.71  0.42	Very limited shrink-swell (very limited) slope (limited)	1.00  0.68	Very limited low strength (very limited) shrink-swell (very limited)	1.00  1.00	Moderately limited small stones (moderately limited)	0.48

Table 12.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings		Local roads and streets		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73225: Gatewood-----	Very limited shrink-swell (very limited) depth to bedrock (moderately limited) wetness (moderately limited)	1.00  0.53  0.51	Very limited hard bedrock <40" (very limited) wetness (very limited) shrink-swell (very limited)	1.00  1.00  1.00	Very limited shrink-swell (very limited) slope (limited) depth to bedrock (moderately limited)	1.00  0.68  0.53	Very limited low strength (very limited) shrink-swell (very limited) depth to bedrock (moderately limited)	1.00  1.00  0.53	Very limited small stones (very limited) depth to bedrock (moderately limited) droughty (moderately limited)	1.00  0.46  0.31
73226: Ocie-----	Very limited shrink-swell (very limited) slope (moderately limited) wetness (moderately limited)	1.00  0.45  0.45	Very limited wetness (very limited) shrink-swell (limited) slope (moderately limited)	1.00  0.85  0.45	Very limited shrink-swell (very limited) slope (very limited)	1.00  1.00	Very limited low strength (very limited) shrink-swell (very limited) slope (slightly limited)	1.00  1.00  0.04	Very limited small stones (very limited) slope (slightly limited)	1.00  0.04
Gatewood-----	Very limited shrink-swell (very limited) depth to bedrock (moderately limited) wetness (moderately limited)	1.00  0.53  0.51	Very limited hard bedrock <40" (very limited) wetness (very limited) shrink-swell (very limited)	1.00  1.00  1.00	Very limited shrink-swell (very limited) slope (very limited) depth to bedrock (moderately limited)	1.00  1.00  0.53	Very limited low strength (very limited) shrink-swell (very limited) depth to bedrock (moderately limited)	1.00  1.00  0.53	Very limited small stones (very limited) depth to bedrock (moderately limited) droughty (moderately limited)	1.00  0.46  0.31
73227: Ocie-----	Very limited shrink-swell (very limited) slope (very limited) wetness (moderately limited)	1.00  1.00  0.45	Very limited slope (very limited) wetness (very limited) shrink-swell (limited)	1.00  1.00  0.85	Very limited slope (very limited) shrink-swell (very limited)	1.00  1.00	Very limited low strength (very limited) slope (very limited) shrink-swell (very limited)	1.00  1.00  1.00	Very limited slope (very limited) small stones (very limited) too acid (slightly limited)	1.00  1.00  0.06
Gatewood-----	Very limited shrink-swell (very limited) slope (very limited) wetness (moderately limited)	1.00  1.00  0.51	Very limited hard bedrock <40" (very limited) wetness (very limited) shrink-swell (very limited)	1.00  1.00  1.00	Very limited slope (very limited) shrink-swell (very limited) depth to bedrock (slightly limited)	1.00  1.00  0.25	Very limited low strength (very limited) slope (very limited) shrink-swell (very limited)	1.00  1.00  1.00	Very limited slope (very limited) small stones (very limited) wetness (slightly limited)	1.00  1.00  0.13



Table 12.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings		Local roads and streets		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73228:										
Gatewood-----	Very limited shrink-swell (very limited) depth to bedrock (moderately limited) wetness (moderately limited)	1.00  0.53  0.51	Very limited hard bedrock <40" (very limited) wetness (very limited) shrink-swell (very limited)	1.00  1.00  1.00	Very limited shrink-swell (very limited) slope (very limited) depth to bedrock (moderately limited)	1.00  1.00  0.53	Very limited low strength (very limited) shrink-swell (very limited) depth to bedrock (moderately limited)	1.00  1.00  0.53	Very limited small stones (very limited) depth to bedrock (moderately limited) droughty (moderately limited)	1.00  0.46  0.31
Moko-----	Very limited hard bedrock <20" (very limited) large stones (limited) slope (moderately limited)	1.00  0.86  0.45	Very limited hard bedrock <40" (very limited) large stones (limited) slope (moderately limited)	1.00  0.86  0.45	Very limited hard bedrock <20" (very limited) slope (very limited) large stones (limited)	1.00  1.00  0.86	Very limited hard bedrock <20" (very limited) large stones (limited) low strength (slightly limited)	1.00  0.86  0.22	Very limited shallow to bedrock (very limited) droughty (very limited) large stones (limited)	1.00  1.00  0.83
73229:										
Gatewood-----	Very limited shrink-swell (very limited) slope (very limited) depth to bedrock (moderately limited)	1.00  1.00  0.53	Very limited hard bedrock <40" (very limited) wetness (very limited) shrink-swell (very limited)	1.00  1.00  1.00	Very limited slope (very limited) shrink-swell (very limited) depth to bedrock (moderately limited)	1.00  1.00  0.53	Very limited low strength (very limited) slope (very limited) shrink-swell (very limited)	1.00  1.00  1.00	Very limited slope (very limited) small stones (limited) depth to bedrock (moderately limited)	1.00  0.64  0.46
Moko-----	Very limited hard bedrock <20" (very limited) slope (very limited) large stones (limited)	1.00  1.00  0.86	Very limited hard bedrock <40" (very limited) slope (very limited) large stones (limited)	1.00  1.00  0.86	Very limited hard bedrock <20" (very limited) slope (very limited) large stones (limited)	1.00  1.00  0.86	Very limited hard bedrock <20" (very limited) slope (very limited) large stones (limited)	1.00  1.00  0.86	Very limited slope (very limited) shallow to bedrock (very limited) droughty (very limited)	1.00  1.00  1.00
73230:										
Coulstone-----	Very limited slope (very limited) large stones (limited)	1.00  0.88	Very limited slope (very limited) large stones (limited)	1.00  0.88	Very limited slope (very limited) large stones (limited)	1.00  0.88	Very limited slope (very limited) large stones (limited)	1.00  0.88	Very limited slope (very limited) droughty (very limited) large stones >30% (very limited)	1.00  1.00  1.00

Table 12.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings		Local roads and streets		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73230: Bender-----	Very limited slope (very limited) large stones (limited) depth to bedrock (moderately limited)	1.00  0.71 0.46	Very limited hard bedrock <40" (very limited) slope (very limited) large stones (limited)	1.00  1.00 0.71	Very limited slope (very limited) large stones (limited) depth to bedrock (moderately limited)	1.00  0.71 0.46	Very limited slope (very limited) large stones (limited) depth to bedrock (moderately limited)	1.00  0.71 0.46	Very limited slope (very limited) droughty (very limited) large stones >30% (very limited)	1.00  1.00 1.00
Gatewood-----	Very limited shrink-swell (very limited) slope (very limited) depth to bedrock (moderately limited)	1.00  1.00 0.53	Very limited hard bedrock <40" (very limited) wetness (very limited) shrink-swell (very limited)	1.00  1.00 1.00	Very limited slope (very limited) shrink-swell (very limited) depth to bedrock (moderately limited)	1.00  1.00 0.53	Very limited low strength (very limited) slope (very limited) shrink-swell (very limited)	1.00  1.00 1.00	Very limited slope (very limited) small stones (very limited) depth to bedrock (moderately limited)	1.00  1.00 0.46
73231: Wasola-----	Moderately limited wetness (moderately limited)	0.59	Very limited wetness (very limited) shrink-swell (moderately limited)	1.00  0.53	Slightly limited wetness (slightly limited) slope (slightly limited)	0.28  0.15	Slightly limited wetness (slightly limited)	0.28	Very limited small stones (very limited) wetness (slightly limited)	1.00  0.28
73232: Alred-----	Not limited		Moderately limited shrink-swell (moderately limited)	0.50	Moderately limited slope (moderately limited)	0.45	Not limited		Very limited small stones (limited) too acid (slightly limited)	1.00  0.30
Ocie-----	Very limited shrink-swell (very limited) wetness (moderately limited)	1.00  0.45	Very limited wetness (very limited) shrink-swell (limited) depth to bedrock (moderately limited)	1.00  0.71 0.42	Very limited shrink-swell (very limited) slope (moderately limited)	1.00  0.45	Very limited low strength (very limited) shrink-swell (very limited)	1.00  1.00	Moderately limited small stones (moderately limited)	0.48

Table 12.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings		Local roads and streets		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73233: Alred-----	Limited slope (limited)	0.76	Limited slope (limited) shrink-swell (moderately limited)	0.76 0.50	Very limited slope (very limited)	1.00	Limited slope (limited)	0.63	Very limited small stones (limited) slope (limited) too acid (slightly limited)	1.00 0.63 0.30
Ocie-----	Very limited shrink-swell (very limited) slope (limited) wetness (moderately limited)	1.00 0.76 0.45	Very limited wetness (very limited) slope (limited) shrink-swell (limited)	1.00 0.76 0.71	Very limited slope (very limited) shrink-swell (very limited)	1.00 1.00	Very limited low strength (very limited) shrink-swell (very limited) slope (limited)	1.00 1.00 0.63	Limited slope (limited) small stones (moderately limited)	0.63 0.48
73234: Alred-----	Very limited shrink-swell (very limited) slope (very limited) large stones (slightly limited)	1.00 1.00 0.01	Very limited slope (very limited) shrink-swell (limited) large stones (slightly limited)	1.00 0.62 0.01	Very limited slope (very limited) shrink-swell (very limited) large stones (slightly limited)	1.00 1.00 0.01	Very limited low strength (very limited) slope (very limited) shrink-swell (very limited)	1.00 1.00 1.00	Very limited large stones >30% (very limited) slope (very limited) small stones (moderately limited)	1.00 1.00 0.55
Gatewood-----	Very limited shrink-swell (very limited) slope (very limited) wetness (moderately limited)	1.00 1.00 0.51	Very limited hard bedrock <40" (very limited) wetness (very limited) shrink-swell (very limited)	1.00 1.00 1.00	Very limited slope (very limited) shrink-swell (very limited) depth to bedrock (slightly limited)	1.00 1.00 0.25	Very limited low strength (very limited) slope (very limited) shrink-swell (very limited)	1.00 1.00 1.00	Very limited slope (very limited) small stones (very limited) wetness (slightly limited)	1.00 1.00 0.13
73235: Alred-----	Very limited shrink-swell (very limited) slope (very limited)	1.00 1.00	Very limited slope (very limited) shrink-swell (limited)	1.00 0.62	Very limited slope (very limited) shrink-swell (very limited)	1.00 1.00	Very limited low strength (very limited) slope (very limited) shrink-swell (very limited)	1.00 1.00 1.00	Very limited slope (very limited) small stones (very limited) too acid (slightly limited)	1.00 1.00 0.12

Table 12.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings		Local roads and streets		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73236: Scholten-----	Limited wetness (limited)	0.93	Very limited wetness (very limited) shrink-swell (slightly limited)	1.00 0.04	Limited slope (limited) wetness (moderately limited)	0.68 0.56	Moderately limited wetness (moderately limited)	0.56	Limited small stones (limited) droughty (limited) wetness (moderately limited)	0.73 0.70 0.56
Poynor-----	Not limited		Slightly limited shrink-swell (slightly limited)	0.14	Moderately limited slope (moderately limited)	0.45	Not limited		Very limited small stones (very limited) too acid (moderately limited)	1.00 0.42
73237: Clarksville---	Moderately limited slope (moderately limited) large stones (slightly limited)	0.45 0.29	Moderately limited slope (moderately limited) large stones (slightly limited) shrink-swell (slightly limited)	0.45 0.29 0.09	Very limited slope (very limited) large stones (slightly limited)	1.00 0.29	Slightly limited large stones (slightly limited) slope (slightly limited)	0.29 0.04	Very limited small stones (very limited) too acid (limited) droughty (moderately limited)	1.00 0.84 0.43
73239: Rueter-----	Very limited slope (very limited) large stones (slightly limited)	1.00 0.29	Very limited slope (very limited) large stones (slightly limited) shrink-swell (slightly limited)	1.00 0.29 0.09	Very limited slope (very limited) large stones (slightly limited)	1.00 0.29	Very limited slope (very limited) large stones (slightly limited)	1.00 0.29	Very limited slope (very limited) small stones (very limited) too acid (limited)	1.00 1.00 0.84
Rock outcrop--	Not rated		Not rated		Not rated		Not rated		Not rated	
73240: Jerktail-----	Very limited shrink-swell (very limited) wetness (moderately limited)	1.00 0.59	Very limited wetness (very limited) shrink-swell (very limited) depth to bedrock (slightly limited)	1.00 1.00 0.22	Very limited shrink-swell (very limited) slope (moderately limited) wetness (slightly limited)	1.00 0.45 0.28	Very limited shrink-swell (very limited) wetness (slightly limited)	1.00 0.28	Slightly limited wetness (slightly limited)	0.28

Table 12.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings		Local roads and streets		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73242: Fanchon-----	Not limited		Not limited		Slightly limited slope (slightly limited)	0.15	Very limited low strength (very limited)	1.00	Slightly limited too acid (slightly limited)	0.24
Tonti-----	Limited wetness (limited)	0.88	Very limited wetness (very limited) shrink-swell (slightly limited)	1.00 0.01	Moderately limited wetness (moderately limited) slope (slightly limited)	0.51 0.15	Moderately limited wetness (moderately limited)	0.51	Moderately limited wetness (moderately limited) too acid (slightly limited)	0.51 0.12
73243: Topazmill-----	Not limited		Not limited		Slightly limited slope (slightly limited)	0.15	Slightly limited low strength (slightly limited)	0.22	Not limited	
73245: Alred-----	Not limited		Moderately limited shrink-swell (moderately limited)	0.50	Moderately limited slope (moderately limited)	0.45	Not limited		Very limited small stones (very limited) too acid (slightly limited)	1.00 0.30
73246: Alred-----	Limited slope (limited)	0.76	Limited slope (limited) shrink-swell (moderately limited)	0.76 0.50	Very limited slope (very limited)	1.00	Limited slope (limited)	0.63	Very limited small stones (very limited) slope (limited) too acid (slightly limited)	1.00 0.63 0.30
73247: Alred-----	Very limited shrink-swell (very limited) slope (very limited)	1.00 1.00	Very limited slope (very limited) shrink-swell (limited)	1.00 0.62	Very limited slope (very limited) shrink-swell (very limited)	1.00 1.00	Very limited low strength (very limited) slope (very limited) shrink-swell (very limited)	1.00 1.00 1.00	Very limited slope (very limited) small stones (very limited) too acid (slightly limited)	1.00 1.00 0.12

Table 12.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings		Local roads and streets		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73248:										
Alred-----	Very limited shrink-swell (very limited) slope (limited) large stones (slightly limited)	1.00  0.76  0.01	Limited slope (limited) shrink-swell (limited) large stones (slightly limited)	0.76  0.62  0.01	Very limited slope (very limited) shrink-swell (very limited) large stones (slightly limited)	1.00  1.00  0.01	Very limited low strength (very limited) shrink-swell (very limited) slope (limited)	1.00  1.00  1.00  0.63	Very limited large stones >30% (very limited) small stones (limited) slope (limited)	1.00  0.64  0.63
Bendavis-----	Limited slope (limited) depth to bedrock (moderately limited) wetness (moderately limited)	0.76  0.59  0.45	Very limited hard bedrock <40" (very limited) wetness (very limited) slope (limited)	1.00  1.00  0.76	Very limited slope (very limited) depth to bedrock (moderately limited)	1.00  0.59	Limited slope (limited) depth to bedrock (moderately limited)	0.63  0.59	Very limited small stones (very limited) slope (limited) depth to bedrock (moderately limited)	1.00  0.63  0.58
73249:										
Alred-----	Very limited shrink-swell (very limited) slope (very limited) large stones (slightly limited)	1.00  1.00  0.01	Very limited slope (very limited) shrink-swell (limited) large stones (slightly limited)	1.00  0.62  0.01	Very limited slope (very limited) shrink-swell (very limited) large stones (slightly limited)	1.00  1.00  0.01	Very limited low strength (very limited) slope (very limited) shrink-swell (very limited)	1.00  1.00  1.00	Very limited large stones >30% (very limited) slope (very limited) small stones (limited)	1.00  1.00  0.64
Ocie-----	Very limited shrink-swell (very limited) slope (very limited) wetness (moderately limited)	1.00  1.00  0.45	Very limited slope (very limited) wetness (very limited) shrink-swell (limited)	1.00  1.00  0.71	Very limited slope (very limited) shrink-swell (very limited)	1.00  1.00	Very limited low strength (very limited) slope (very limited) shrink-swell (very limited)	1.00  1.00  1.00	Very limited slope (very limited) small stones (very limited)	1.00  1.00
Bendavis-----	Very limited slope (very limited) wetness (moderately limited) depth to bedrock (slightly limited)	1.00  0.45  0.25	Very limited hard bedrock <40" (very limited) slope (very limited) wetness (very limited)	1.00  1.00  1.00	Very limited slope (very limited) depth to bedrock (slightly limited)	1.00  0.25	Very limited slope (very limited) depth to bedrock (slightly limited)	1.00  0.25	Very limited slope (very limited) small stones (very limited) too acid (slightly limited)	1.00  1.00  0.30



Table 12.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings		Local roads and streets		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
74626: Tanglenook----	Very limited wetness (very limited) flooding (very limited) shrink-swell (very limited)	1.00  1.00  1.00	Very limited flooding (very limited) wetness (very limited) shrink-swell (very limited)	1.00  1.00  1.00	Very limited flooding (very limited) wetness (very limited) shrink-swell (very limited)	1.00  1.00  1.00	Very limited low strength (very limited) wetness (very limited) shrink-swell (very limited)	1.00  1.00  1.00	Very limited wetness (very limited)	1.00
74657: Pomme-----	Not limited		Not limited		Moderately limited slope (moderately limited)	0.45	Not limited		Not limited	
74658: Zanoni-----	Very limited flooding (very limited)	1.00	Very limited flooding (very limited)	1.00	Very limited flooding (very limited)	1.00	Limited flooding (rare) (limited)	0.90	Not limited	
75382: Cedargap-----	Very limited flooding (very limited)	1.00	Very limited flooding (very limited) wetness (slightly limited)	1.00  0.16	Very limited flooding (very limited)	1.00	Very limited flooding (very limited)	1.00	Very limited flooding (very limited) small stones (moderately limited)	1.00  0.48
75390: Razort-----	Very limited flooding (very limited)	1.00	Very limited flooding (very limited)	1.00	Very limited flooding (very limited)	1.00	Limited flooding (rare) (limited)	0.90	Not limited	
75406: Racket-----	Very limited flooding (very limited) shrink-swell (moderately limited)	1.00  0.45	Very limited flooding (very limited) shrink-swell (slightly limited) wetness (slightly limited)	1.00  0.20  0.16	Very limited flooding (very limited) shrink-swell (moderately limited)	1.00  0.45	Very limited flooding (very limited) low strength (limited) shrink-swell (moderately limited)	1.00  0.78  0.45	Very limited flooding (very limited)	1.00

Table 12.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings		Local roads and streets		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
75417: Relfe-----	Very limited flooding (very limited)	1.00	Very limited flooding (very limited)	1.00	Very limited flooding (very limited)	1.00	Very limited flooding (very limited)	1.00	Very limited flooding (very limited) droughty (very limited) small stones (very limited)	1.00 1.00 1.00
Sandbur-----	Very limited flooding (very limited)	1.00	Very limited flooding (very limited)	1.00	Very limited flooding (very limited)	1.00	Very limited flooding (very limited)	1.00	Very limited flooding (very limited)	1.00
75422: Secesh-----	Very limited flooding (very limited)	1.00	Very limited flooding (very limited)	1.00	Very limited flooding (very limited)	1.00	Very limited flooding (very limited)	1.00	Moderately limited flooding (moderately limited) large stones (slightly limited)	0.60 0.01
75423: Cedargap-----	Very limited flooding (very limited)	1.00	Very limited flooding (very limited)	1.00	Very limited flooding (very limited)	1.00	Very limited flooding (very limited)	1.00	Very limited small stones (very limited) flooding (moderately limited) droughty (slightly limited)	1.00 0.60 0.17
75424: Sandbur-----	Very limited flooding (very limited)	1.00	Very limited flooding (very limited)	1.00	Very limited flooding (very limited)	1.00	Very limited flooding (very limited)	1.00	Very limited flooding (very limited)	1.00
99001: Water-----	Not rated		Not rated		Not rated		Not rated		Not rated	
99002: Borrow areas--	Not rated		Not rated		Not rated		Not rated		Not rated	

Table 13.--Sanitary Facilities

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Septic tank absorption field		Sewage lagoons		Sanitary landfill (trench)		Sanitary landfill (area)		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
70026: Tonti-----	Very limited wetness (very limited) percs slowly (very limited)	1.00  1.00	Very limited wetness (very limited) seepage (moderately limited)	1.00  0.50	Limited wetness (limited) too clayey (limited) too acid (moderately limited)	0.99  0.96  0.54	Limited wetness (limited)	0.80	Limited small stones (limited) too clayey (limited) hard to pack (limited)	1.00  0.91  0.70
73000: Pomme-----	Slightly limited percs slowly (slightly limited)	0.25	Moderately limited seepage (moderately limited) slope (moderately limited)	0.50  0.31	Very limited too clayey (very limited) too acid (slightly limited)	1.00  0.18	Not limited		Very limited too clayey (very limited) too acid (slightly limited)	1.00  0.18
73015: Viraton-----	Very limited wetness (very limited) percs slowly (limited)	1.00  0.93	Very limited wetness (very limited)	1.00	Very limited wetness (very limited) too clayey (very limited) too acid (moderately limited)	1.00 1.00  0.48	Very limited wetness (very limited)	1.00	Very limited wetness (very limited) too clayey (very limited) small stones (moderately limited)	1.00  1.00  0.51
73017: Bendavis-----	Very limited depth to bedrock (very limited) slope (very limited) wetness (very limited)	1.00  1.00  1.00	Very limited slope (very limited) wetness (very limited) depth to bedrock (very limited)	1.00  1.00  1.00	Very limited slope (very limited) depth to bedrock (very limited) wetness (limited)	1.00 1.00 1.00 0.79	Very limited depth to bedrock (very limited) slope (very limited) wetness (limited)	1.00 1.00 1.00 0.61	Very limited depth to bedrock (very limited) slope (very limited) small stones >35% (very limited)	1.00  1.00  1.00

Table 13.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption field		Sewage lagoons		Sanitary landfill (trench)		Sanitary landfill (area)		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73017: Poynor-----	Very limited slope (very limited) percs slowly (slightly limited)	1.00  0.25	Very limited slope (very limited) seepage (moderately limited)	1.00  0.50	Very limited slope (very limited) too clayey (very limited) too acid (moderately limited)	1.00  1.00  0.36	Very limited slope (very limited)	1.00	Very limited slope (very limited) too clayey (very limited) hard to pack (limited)	1.00  1.00  0.70
73019: Poynor-----	Slightly limited percs slowly (slightly limited)	0.25	Limited slope (limited) seepage (moderately limited)	0.91  0.50	Limited too clayey (limited) too acid (limited)	1.00  0.76	Not limited		Limited too clayey (limited) too acid (limited) hard to pack (limited)	0.99  0.76  0.70
73023: Mano-----	Very limited wetness (very limited) percs slowly (limited)	1.00  0.93	Very limited wetness (very limited) slope (limited) seepage (moderately limited)	1.00  0.66  0.50	Very limited too clayey (very limited) wetness (limited)	1.00  0.79	Limited wetness (limited)	0.61	Very limited too clayey (very limited) hard to pack (limited) wetness (moderately limited)	1.00  0.70  0.40
Ocie-----	Very limited percs slowly (very limited) wetness (very limited) depth to bedrock (moderately limited)	1.00  1.00  0.42	Very limited wetness (very limited) slope (limited) seepage (moderately limited)	1.00  0.66  0.50	Very limited depth to bedrock (very limited) too clayey (very limited) wetness (limited)	1.00  1.00  0.79	Limited wetness (limited) depth to bedrock (slightly limited)	0.61  0.25	Very limited too clayey (very limited) hard to pack (limited) wetness (moderately limited)	1.00  0.70  0.40
73024: Mano-----	Very limited wetness (very limited) percs slowly (limited) slope (limited)	1.00  0.93  0.63	Very limited slope (very limited) wetness (very limited) seepage (moderately limited)	1.00  1.00  0.50	Very limited too clayey (very limited) wetness (limited) slope (limited)	1.00  0.79  0.63	Limited slope (limited) wetness (limited)	0.63  0.61	Very limited too clayey (very limited) hard to pack (limited) slope (limited)	1.00  0.70  0.63

Table 13.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption field		Sewage lagoons		Sanitary landfill (trench)		Sanitary landfill (area)		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73024: Ocie-----	Very limited percs slowly (very limited) wetness (very limited) slope (limited)	1.00 1.00 0.63	Very limited slope (very limited) wetness (very limited) seepage (moderately limited)	1.00 1.00 0.50	Very limited depth to bedrock (very limited) too clayey (very limited) wetness (limited)	1.00 1.00 0.79	Limited slope (limited) wetness (limited) depth to bedrock (slightly limited)	0.63 0.61 0.25	Very limited too clayey (very limited) hard to pack (limited) slope (limited)	1.00 0.70 0.63
73069: Tick-----	Very limited slope (very limited) percs slowly (limited)	1.00 0.99	Very limited slope (very limited)	1.00	Very limited slope (very limited) too clayey (very limited) too acid (moderately limited)	1.00 1.00 0.48	Very limited slope (very limited)	1.00	Very limited slope (very limited) too clayey (very limited) too acid (moderately limited)	1.00 1.00 0.48
73073: Scholten----	Very limited wetness (very limited) percs slowly (very limited) slope (limited)	1.00 1.00 0.63	Very limited slope (very limited) wetness (very limited) seepage (limited)	1.00 1.00 0.68	Very limited wetness (very limited) too clayey (limited) slope (limited)	1.00 0.88 0.63	Limited wetness (limited) slope (limited)	0.96 0.63	Very limited small stones >35% (very limited) too clayey (limited) hard to pack (limited)	1.00 0.76 0.70
Poynor-----	Limited percs slowly (limited) slope (limited)	0.75 0.63	Very limited slope (very limited) seepage (moderately limited)	1.00 0.50	Very limited too clayey (very limited) slope (limited) too acid (moderately limited)	1.00 0.63 0.42	Limited slope (limited)	0.63	Very limited too clayey (very limited) hard to pack (limited) slope (limited)	1.00 0.70 0.63
73076: Mano-----	Very limited slope (very limited) wetness (very limited) percs slowly (limited)	1.00 1.00 0.93	Very limited slope (very limited) wetness (very limited) seepage (moderately limited)	1.00 1.00 0.50	Very limited slope (very limited) too clayey (very limited) wetness (limited)	1.00 1.00 0.79	Very limited slope (very limited) wetness (limited)	1.00 0.61	Very limited slope (very limited) too clayey (very limited) hard to pack (limited)	1.00 1.00 0.70

Table 13.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption field		Sewage lagoons		Sanitary landfill (trench)		Sanitary landfill (area)		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73076: Ocie-----	Very limited percs slowly (very limited) slope (very limited) wetness (very limited)	1.00 1.00 1.00 1.00	Very limited slope (very limited) wetness (very limited) seepage (moderately limited)	1.00 1.00 1.00 0.50	Very limited slope (very limited) depth to bedrock (very limited) too clayey (very limited)	1.00 1.00 1.00 1.00	Very limited slope (very limited) wetness (limited) depth to bedrock (slightly limited)	1.00 0.61 0.25	Very limited slope (very limited) too clayey (very limited) hard to pack (limited)	1.00 1.00 0.70
73198: Gressy-----	Limited percs slowly (limited)	0.93	Limited seepage (limited) slope (moderately limited)	0.98 0.31	Very limited too clayey (very limited) too acid (slightly limited)	1.00 0.06	Not limited		Very limited too clayey (very limited) too acid (slightly limited) small stones (slightly limited)	1.00 0.06 0.01
Viraton-----	Very limited wetness (very limited) percs slowly (very limited)	1.00 1.00	Very limited wetness (very limited) seepage (moderately limited) slope (moderately limited)	1.00 0.50 0.31	Very limited too clayey (very limited) wetness (limited) too acid (moderately limited)	1.00 0.99 0.48	Limited wetness (limited)	0.80	Very limited too clayey (very limited) small stones (moderately limited) wetness (moderately limited)	1.00 0.51 0.50
73199: Moko-----	Very limited depth to bedrock (very limited) large stones (limited) slope (slightly limited)	1.00 0.99 0.04	Very limited depth to bedrock (very limited) slope (very limited) large stones (limited)	1.00 1.00 0.81	Very limited depth to bedrock (very limited) slope (slightly limited)	1.00 0.04	Very limited depth to bedrock (very limited) slope (slightly limited)	1.00 0.04	Very limited depth to bedrock (very limited) large stones (limited) small stones (moderately limited)	1.00 0.99 0.50
Rock outcrop--	Not rated		Not rated		Not rated		Not rated		Not rated	
73220: Poynor-----	Limited percs slowly (limited) slope (limited)	0.75 0.63	Very limited slope (very limited) seepage (moderately limited)	1.00 0.50	Very limited too clayey (very limited) slope (limited) too acid (moderately limited)	1.00 0.63 0.42	Limited slope (limited)	0.63	Very limited too clayey (very limited) hard to pack (limited) slope (limited)	1.00 0.70 0.63



Table 13.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption field		Sewage lagoons		Sanitary landfill (trench)		Sanitary landfill (area)		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73221: Poynor-----	Very limited slope (very limited) percs slowly (limited)	1.00  0.75	Very limited slope (very limited) seepage (moderately limited)	1.00  0.50	Very limited too clayey (very limited) slope (very limited) too acid (moderately limited)	1.00  1.00  0.36	Very limited slope (very limited)	1.00	Very limited too clayey (very limited) slope (very limited) hard to pack (limited)	1.00  1.00  0.70
73222: Splitlimb----	Very limited ponded (wetness) (very limited) wetness (very limited) percs slowly (limited)	1.00  1.00  0.71	Very limited wetness (very limited) ponded (wetness) (very limited) seepage (moderately limited)	1.00  1.00  0.32	Very limited ponded (wetness) (very limited) wetness (very limited) too acid (moderately limited)	1.00  1.00  0.48	Very limited ponded (wetness) (very limited) wetness (limited)	1.00  0.93	Very limited ponded (wetness) (very limited) wetness (moderately limited) too acid (moderately limited)	1.00  0.57  0.48
73223: Coulstone-----	Very limited slope (very limited)	1.00	Very limited slope (very limited) seepage (very limited)	1.00  1.00	Very limited slope (very limited) seepage (limited) too acid (slightly limited)	1.00  0.67  0.18	Very limited slope (very limited) seepage (limited)	1.00  0.79	Very limited slope (very limited) small stones >35% (very limited) too acid (slightly limited)	1.00  1.00  0.18
Bender-----	Very limited depth to bedrock (very limited) slope (very limited) large stones (limited)	1.00  1.00  0.76	Very limited slope (very limited) depth to bedrock (very limited) seepage (very limited)	1.00  1.00  1.00	Very limited slope (very limited) depth to bedrock (very limited) seepage (limited)	1.00  1.00  0.96	Very limited depth to bedrock (very limited) slope (very limited) seepage (limited)	1.00  1.00  0.97	Very limited depth to bedrock (very limited) slope (very limited) seepage (limited)	1.00  1.00  0.99
73224: Moko-----	Very limited depth to bedrock (very limited) slope (very limited) large stones (limited)	1.00  1.00  0.86	Very limited slope (very limited) depth to bedrock (very limited) large stones (moderately limited)	1.00  1.00  0.50	Very limited slope (very limited) depth to bedrock (very limited)	1.00  1.00	Very limited depth to bedrock (very limited) slope (very limited)	1.00  1.00	Very limited depth to bedrock (very limited) slope (very limited) large stones (limited)	1.00  1.00  0.77
Rock outcrop--	Not rated		Not rated		Not rated		Not rated		Not rated	

Table 13.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption field		Sewage lagoons		Sanitary landfill (trench)		Sanitary landfill (area)		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73225: Ocie-----	Very limited percs slowly (very limited) wetness (very limited) depth to bedrock (moderately limited)	1.00 1.00 0.42	Very limited wetness (very limited) slope (limited) seepage (moderately limited)	1.00 0.91 0.50	Very limited depth to bedrock (very limited) too clayey (very limited) wetness (limited)	1.00 1.00 0.79	Limited wetness (limited) depth to bedrock (slightly limited)	0.61 0.25	Very limited too clayey (very limited) hard to pack (limited) wetness (moderately limited)	1.00 0.70 0.40
Gatewood-----	Very limited depth to bedrock (very limited) wetness (very limited)	1.00 1.00	Very limited wetness (very limited) depth to bedrock (very limited) slope (limited)	1.00 1.00 0.91	Very limited depth to bedrock (very limited) too clayey (very limited) wetness (limited)	1.00 1.00 0.89	Very limited depth to bedrock (very limited) wetness (limited)	1.00 0.69	Very limited depth to bedrock (very limited) too clayey (very limited) hard to pack (limited)	1.00 1.00 0.70
73226: Ocie-----	Very limited wetness (very limited) percs slowly (limited) depth to bedrock (moderately limited)	1.00 0.93 0.42	Very limited wetness (very limited) slope (very limited) seepage (moderately limited)	1.00 1.00 0.50	Very limited depth to bedrock (very limited) too clayey (very limited) wetness (limited)	1.00 1.00 0.79	Limited wetness (limited) depth to bedrock (slightly limited) slope (slightly limited)	0.61 0.25 0.04	Very limited too clayey (very limited) small stones (limited) hard to pack (limited)	1.00 0.83 0.70
Gatewood-----	Very limited depth to bedrock (very limited) wetness (very limited) slope (slightly limited)	1.00 1.00 0.04	Very limited wetness (very limited) depth to bedrock (very limited) slope (very limited)	1.00 1.00 1.00	Very limited depth to bedrock (very limited) too clayey (very limited) wetness (limited)	1.00 1.00 0.89	Very limited depth to bedrock (very limited) wetness (limited) slope (slightly limited)	1.00 0.69 0.04	Very limited depth to bedrock (very limited) too clayey (very limited) hard to pack (limited)	1.00 1.00 0.70
73227: Ocie-----	Very limited slope (very limited) wetness (very limited) percs slowly (limited)	1.00 1.00 0.93	Very limited slope (very limited) wetness (very limited) seepage (moderately limited)	1.00 1.00 0.50	Very limited slope (very limited) depth to bedrock (very limited) too clayey (very limited)	1.00 1.00 1.00	Very limited slope (very limited) wetness (limited) depth to bedrock (slightly limited)	1.00 0.61 0.25	Very limited slope (very limited) too clayey (very limited) hard to pack (limited)	1.00 1.00 0.70

Table 13.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption field		Sewage lagoons		Sanitary landfill (trench)		Sanitary landfill (area)		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73227: Gatewood-----	Very limited depth to bedrock (very limited) slope (very limited) wetness (very limited)	1.00 1.00 1.00 1.00	Very limited slope (very limited) wetness (very limited) depth to bedrock (very limited)	1.00 1.00 1.00 1.00	Very limited slope (very limited) depth to bedrock (very limited) too clayey (very limited)	1.00 1.00 1.00 1.00	Very limited depth to bedrock (very limited) slope (very limited) wetness (limited)	1.00 1.00 1.00 0.69	Very limited depth to bedrock (very limited) slope (very limited) too clayey (very limited)	1.00 1.00 1.00 1.00
73228: Gatewood-----	Very limited depth to bedrock (very limited) wetness (very limited) slope (slightly limited)	1.00 1.00 1.00 0.04	Very limited wetness (very limited) depth to bedrock (very limited) slope (very limited)	1.00 1.00 1.00 1.00	Very limited depth to bedrock (very limited) too clayey (very limited) wetness (limited)	1.00 1.00 1.00 0.89	Very limited depth to bedrock (very limited) wetness (limited) slope (slightly limited)	1.00 1.00 0.69 0.04	Very limited depth to bedrock (very limited) too clayey (very limited) hard to pack (limited)	1.00 1.00 1.00 0.70
Moko-----	Very limited depth to bedrock (very limited) large stones (limited) slope (slightly limited)	1.00 0.86 0.04	Very limited depth to bedrock (very limited) slope (very limited) large stones (moderately limited)	1.00 1.00 0.50	Very limited depth to bedrock (very limited) slope (slightly limited)	1.00 0.04	Very limited depth to bedrock (very limited) slope (slightly limited)	1.00 0.04	Very limited depth to bedrock (very limited) large stones (limited) slope (slightly limited)	1.00 0.77 0.04
73229: Gatewood-----	Very limited depth to bedrock (very limited) slope (very limited) wetness (very limited)	1.00 1.00 1.00	Very limited slope (very limited) wetness (very limited) depth to bedrock (very limited)	1.00 1.00 1.00	Very limited slope (very limited) depth to bedrock (very limited) too clayey (very limited)	1.00 1.00 1.00	Very limited depth to bedrock (very limited) slope (very limited) wetness (limited)	1.00 1.00 0.69	Very limited depth to bedrock (very limited) slope (very limited) too clayey (very limited)	1.00 1.00 1.00
Moko-----	Very limited depth to bedrock (very limited) slope (very limited) large stones (limited)	1.00 1.00 0.86	Very limited slope (very limited) depth to bedrock (very limited) large stones (moderately limited)	1.00 1.00 0.50	Very limited slope (very limited) depth to bedrock (very limited)	1.00 1.00	Very limited depth to bedrock (very limited) slope (very limited)	1.00 1.00	Very limited depth to bedrock (very limited) slope (very limited) large stones (limited)	1.00 1.00 0.77

Table 13.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption field		Sewage lagoons		Sanitary landfill (trench)		Sanitary landfill (area)		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73230: Coulstone-----	Very limited slope (very limited) large stones (limited)	1.00  0.88	Very limited slope (very limited) seepage (very limited) large stones (very limited)	1.00  1.00  1.00	Very limited slope (very limited) large stones (very limited) seepage (limited)	1.00  1.00  0.67	Very limited slope (very limited) seepage (limited)	1.00  0.79	Very limited slope (very limited) large stones >35% (very limited) too acid (slightly limited)	1.00  1.00  0.18
Bender-----	Very limited depth to bedrock (very limited) slope (very limited) large stones (limited)	1.00  1.00  0.71	Very limited slope (very limited) depth to bedrock (very limited) seepage (very limited)	1.00  1.00  1.00	Very limited slope (very limited) depth to bedrock (very limited) seepage (limited)	1.00  1.00  0.96	Very limited depth to bedrock (very limited) slope (very limited) seepage (limited)	1.00  1.00  0.97	Very limited depth to bedrock (very limited) slope (very limited) seepage (limited)	1.00  1.00  0.99
Gatewood-----	Very limited depth to bedrock (very limited) slope (very limited) wetness (very limited)	1.00  1.00  1.00	Very limited slope (very limited) wetness (very limited) depth to bedrock (very limited)	1.00  1.00  1.00	Very limited slope (very limited) depth to bedrock (very limited) too clayey (very limited)	1.00  1.00  1.00	Very limited depth to bedrock (very limited) slope (very limited) wetness (limited)	1.00  1.00  0.69	Very limited depth to bedrock (very limited) slope (very limited) too clayey (very limited)	1.00  1.00  1.00
73231: Wasola-----	Very limited wetness (very limited) percs slowly (limited)	1.00  0.93	Very limited wetness (very limited) seepage (moderately limited) slope (moderately limited)	1.00  0.50  0.31	Limited wetness (limited) too clayey (moderately limited) too acid (slightly limited)	0.99  0.31  0.30	Limited wetness (limited)	0.80	Very limited small stones >35% (very limited) wetness (moderately limited) too acid (slightly limited)	1.00  0.50  0.30
73232: Alred-----	Limited percs slowly (limited)	0.93	Limited slope (limited) seepage (moderately limited)	0.66  0.50	Very limited too clayey (very limited)	1.00	Not limited		Very limited too clayey (very limited) hard to pack (limited) small stones (moderately limited)	1.00  0.70  0.40

Table 13.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption field		Sewage lagoons		Sanitary landfill (trench)		Sanitary landfill (area)		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73232:										
Ocie-----	Very limited		Very limited		Very limited		Limited		Very limited	
	percs slowly	1.00	wetness	1.00	depth to bedrock	1.00	wetness	0.61	too clayey	1.00
	(very limited)		(very limited)		(very limited)		(limited)		(very limited)	
	wetness	1.00	slope	0.66	too clayey	1.00	depth to bedrock	0.25	hard to pack	0.70
	(very limited)		(limited)		(very limited)		(slightly limited)		(limited)	
	depth to bedrock	0.42	seepage	0.50	wetness	0.79			wetness	0.40
	(moderately limited)		(moderately limited)		(limited)				(moderately limited)	
73233:										
Alred-----	Limited		Very limited		Very limited		Limited		Very limited	
	percs slowly	0.93	slope	1.00	too clayey	1.00	slope	0.63	too clayey	1.00
	(limited)		(very limited)		(very limited)		(limited)		(very limited)	
	slope	0.63	seepage	0.50	slope	0.63			hard to pack	0.70
	(limited)		(moderately limited)		(limited)				(limited)	
									slope	0.63
									(limited)	
Ocie-----	Very limited		Very limited		Very limited		Limited		Very limited	
	percs slowly	1.00	slope	1.00	depth to bedrock	1.00	slope	0.63	too clayey	1.00
	(very limited)		(very limited)		(very limited)		(limited)		(very limited)	
	wetness	1.00	wetness	1.00	too clayey	1.00	wetness	0.61	hard to pack	0.70
	(very limited)		(very limited)		(very limited)		(limited)		(limited)	
	slope	0.63	seepage	0.50	wetness	0.79	depth to bedrock	0.25	slope	0.63
	(limited)		(moderately limited)		(limited)		(slightly limited)		(limited)	
73234:										
Alred-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	slope	1.00	slope	1.00	slope	1.00	slope	1.00	slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	percs slowly	0.93	seepage	0.50	too clayey	1.00			too clayey	1.00
	(limited)		(moderately limited)		(very limited)				(very limited)	
	large stones	0.01	large stones	0.08					hard to pack	0.70
	(slightly limited)		(slightly limited)						(limited)	
Gatewood-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	depth to bedrock	1.00	slope	1.00	slope	1.00	depth to bedrock	1.00	depth to bedrock	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	slope	1.00	wetness	1.00	depth to bedrock	1.00	slope	1.00	slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	wetness	1.00	depth to bedrock	1.00	too clayey	1.00	wetness	0.69	too clayey	1.00
	(very limited)		(very limited)		(very limited)		(limited)		(very limited)	

Table 13.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption field		Sewage lagoons		Sanitary landfill (trench)		Sanitary landfill (area)		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73235: Alred-----	Very limited slope (very limited) percs slowly (limited)	1.00  0.93	Very limited slope (very limited) seepage (moderately limited)	1.00  0.50	Very limited slope (very limited) too clayey (very limited)	1.00  1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited) too clayey (very limited) hard to pack (limited)	1.00  1.00  0.70
73236: Scholten-----	Very limited wetness (very limited) percs slowly (very limited)	1.00  1.00	Very limited wetness (very limited) slope (limited) seepage (limited)	1.00  0.91  0.68	Very limited wetness (very limited) too clayey (limited) too acid (moderately limited)	1.00  0.88  0.48	Limited wetness (limited)	0.96	Very limited small stones >35% (very limited) too clayey (limited) wetness (moderately limited)	1.00  0.76  0.59
Poynor-----	Moderately limited percs slowly (moderately limited)	0.45	Limited seepage (limited) slope (limited)	0.82  0.66	Very limited too clayey (very limited) too acid (moderately limited)	1.00  0.42	Not limited		Very limited too clayey (very limited) hard to pack (limited) small stones (limited)	1.00  0.70  0.70
73237: Clarksville---	Slightly limited large stones (slightly limited) percs slowly (slightly limited) slope (slightly limited)	0.29  0.25  0.04	Very limited seepage (very limited) slope (very limited)	1.00  1.00	Limited too clayey (limited) large stones (limited) slope (slightly limited)	0.92  0.63  0.04	Limited seepage (limited) slope (slightly limited)	0.75  0.04	Limited too clayey (limited) small stones (moderately limited) large stones (moderately limited)	0.83  0.50  0.32
73239: Rueter-----	Very limited slope (very limited) large stones (slightly limited) percs slowly (slightly limited)	1.00  0.29  0.25	Very limited slope (very limited) seepage (very limited)	1.00  1.00	Very limited slope (very limited) too clayey (limited) large stones (limited)	1.00  0.92  0.63	Very limited slope (very limited) seepage (limited)	1.00  0.75	Very limited slope (very limited) too clayey (limited) small stones (moderately limited)	1.00  0.83  0.50
Rock outcrop--	Not rated		Not rated		Not rated		Not rated		Not rated	



Table 13.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption field		Sewage lagoons		Sanitary landfill (trench)		Sanitary landfill (area)		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73240: Jerktail-----	Very limited wetness (very limited) percs slowly (limited) depth to bedrock (slightly limited)	1.00  0.93  0.22	Very limited wetness (very limited) slope (limited) depth to bedrock (slightly limited)	1.00  0.66  0.22	Very limited depth to bedrock (very limited) too clayey (very limited) wetness (limited)	1.00  1.00  0.99	Limited wetness (limited)	0.80	Very limited too clayey (very limited) hard to pack (limited) wetness (moderately limited)	1.00  0.70  0.50
73242: Fanchon-----	Slightly limited percs slowly (slightly limited)	0.25	Moderately limited seepage (moderately limited) slope (moderately limited)	0.50  0.31	Very limited too clayey (very limited) too acid (slightly limited)	1.00  0.30	Not limited		Very limited too clayey (very limited) too acid (slightly limited)	1.00  0.30
Tonti-----	Very limited wetness (very limited) percs slowly (very limited)	1.00  1.00	Very limited wetness (very limited) seepage (limited) slope (moderately limited)	1.00  0.68  0.31	Very limited wetness (very limited) too clayey (limited) too acid (moderately limited)	1.00  1.00  0.42	Limited wetness (limited)	0.94	Limited too clayey (limited) hard to pack (limited) wetness (moderately limited)	0.99  0.70  0.57
73243: Topazmill-----	Slightly limited percs slowly (slightly limited)	0.25	Moderately limited seepage (moderately limited) slope (moderately limited)	0.50  0.31	Slightly limited too acid (slightly limited) too clayey (slightly limited)	0.30  0.11	Not limited		Slightly limited too acid (slightly limited)	0.30
73245: Alred-----	Limited percs slowly (limited)	0.93	Limited slope (limited) seepage (moderately limited)	0.66  0.50	Very limited too clayey (very limited)	1.00	Not limited		Very limited too clayey (very limited) hard to pack (limited) small stones (moderately limited)	1.00  0.70  0.47

Table 13.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption field		Sewage lagoons		Sanitary landfill (trench)		Sanitary landfill (area)		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73246: Alred-----	Limited percs slowly (limited) slope (limited)	0.93  0.63	Very limited slope (very limited) seepage (moderately limited)	1.00  0.50	Very limited too clayey (very limited) slope (limited)	1.00  0.63	Limited slope (limited)	0.63	Very limited too clayey (very limited) hard to pack (limited) slope (limited)	1.00  0.70  0.63
73247: Alred-----	Very limited slope (very limited) percs slowly (limited)	1.00  0.93	Very limited slope (very limited) seepage (moderately limited)	1.00  0.50	Very limited slope (very limited) too clayey (very limited)	1.00  1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited) too clayey (very limited) hard to pack (limited)	1.00  1.00  0.70
73248: Alred-----	Limited percs slowly (limited) slope (limited) large stones (slightly limited)	0.97  0.63  0.01	Very limited slope (very limited) seepage (moderately limited) large stones (slightly limited)	1.00  0.50  0.08	Very limited too clayey (very limited) slope (limited)	1.00  0.63	Limited slope (limited)	0.63	Very limited too clayey (very limited) hard to pack (limited) slope (limited)	1.00  0.70  0.63
Bendavis-----	Very limited depth to bedrock (very limited) wetness (very limited) slope (limited)	1.00  1.00  0.63	Very limited slope (very limited) wetness (very limited) depth to bedrock (very limited)	1.00  1.00  1.00	Very limited depth to bedrock (very limited) wetness (limited) slope (limited)	1.00  0.79  0.63	Very limited depth to bedrock (very limited) slope (limited) wetness (limited)	1.00  0.63  0.61	Very limited depth to bedrock (very limited) small stones >35% (very limited) slope (limited)	1.00  1.00  0.63
73249: Alred-----	Very limited slope (very limited) percs slowly (limited) large stones (slightly limited)	1.00  0.93  0.01	Very limited slope (very limited) seepage (moderately limited) large stones (slightly limited)	1.00  0.50  0.08	Very limited slope (very limited) too clayey (very limited)	1.00  1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited) too clayey (very limited) hard to pack (limited)	1.00  1.00  0.70

Table 13.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption field		Sewage lagoons		Sanitary landfill (trench)		Sanitary landfill (area)		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73249:										
Ocie-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	percs slowly	1.00	slope	1.00	slope	1.00	slope	1.00	slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	slope	1.00	wetness	1.00	depth to bedrock	1.00	wetness	0.61	too clayey	1.00
	(very limited)		(very limited)		(very limited)		(limited)		(very limited)	
	wetness	1.00	seepage	0.50	too clayey	1.00	depth to bedrock	0.25	hard to pack	0.70
	(very limited)		(moderately limited)		(very limited)		(slightly limited)		(limited)	
Bendavis-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	depth to bedrock	1.00	slope	1.00	slope	1.00	depth to bedrock	1.00	depth to bedrock	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	slope	1.00	wetness	1.00	depth to bedrock	1.00	slope	1.00	slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	wetness	1.00	depth to bedrock	1.00	wetness	0.79	wetness	0.61	small stones >35%	1.00
	(very limited)		(very limited)		(limited)		(limited)		(very limited)	
74626:										
Tanglenook----	Very limited		Very limited		Very limited		Very limited		Very limited	
	wetness	1.00	wetness	1.00	wetness	1.00	wetness	1.00	wetness	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	percs slowly	0.93			too clayey	0.84	flooding (rare)	0.60	hard to pack	0.70
	(limited)				(limited)		(moderately limited)		(limited)	
	flooding (rare)	0.60			flooding (rare)	0.60			too clayey	0.68
	(moderately limited)				(moderately limited)				(limited)	
74657:										
Pomme-----	Slightly limited		Limited		Very limited		Not limited		Very limited	
	percs slowly	0.25	slope	0.66	too clayey	1.00			small stones >35%	1.00
	(slightly limited)		(limited)		(very limited)				(very limited)	
			seepage	0.50	too acid	0.18			too clayey	1.00
			(moderately limited)		(slightly limited)				(very limited)	
									too acid	0.18
									(slightly limited)	
74658:										
Zanoni-----	Moderately limited		Very limited		Very limited		Limited		Very limited	
	flooding (rare)	0.60	seepage	1.00	seepage	1.00	seepage	0.88	seepage	1.00
	(moderately limited)		(very limited)		(very limited)		(limited)		(very limited)	
					flooding (rare)	0.60	flooding (rare)	0.60	small stones	0.33
					(moderately limited)		(moderately limited)		(moderately limited)	

Table 13.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption field		Sewage lagoons		Sanitary landfill (trench)		Sanitary landfill (area)		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
75382: Cedargap-----	Very limited flooding (very limited) wetness (moderately limited) percs slowly (slightly limited)	1.00  0.31  0.25	Very limited flooding (very limited) seepage (moderately limited)	1.00  0.50	Very limited flooding (very limited) wetness (slightly limited) too clayey (slightly limited)	1.00  0.15  0.07	Very limited flooding (very limited)	1.00	Very limited small stones >35% (very limited)	1.00
75390: Razort-----	Moderately limited flooding (rare) (moderately limited) percs slowly (slightly limited)	0.60  0.25	Very limited seepage (very limited)	1.00	Limited seepage (limited) flooding (rare) (moderately limited)	0.79  0.60	Limited seepage (limited) flooding (rare) (moderately limited)	0.75  0.60	Moderately limited seepage (moderately limited) small stones (slightly limited)	0.50  0.04
75406: Racket-----	Very limited flooding (very limited) wetness (moderately limited) percs slowly (slightly limited)	1.00  0.31  0.20	Very limited flooding (very limited) seepage (very limited)	1.00  1.00	Very limited flooding (very limited) seepage (limited) wetness (slightly limited)	1.00  0.79  0.15	Very limited flooding (very limited) seepage (moderately limited)	1.00  0.50	Moderately limited seepage (moderately limited) small stones (slightly limited)	0.50  0.02
75417: Relfe-----	Very limited flooding (very limited)	1.00	Very limited flooding (very limited) seepage (very limited)	1.00  1.00	Very limited flooding (very limited) seepage (very limited) too sandy (moderately limited)	1.00  1.00  0.60	Very limited flooding (very limited) seepage (very limited)	1.00  1.00	Very limited seepage (very limited) small stones >35% (very limited) too sandy (moderately limited)	1.00  1.00  0.60
Sandbur-----	Very limited flooding (very limited) percs slowly (slightly limited)	1.00  0.25	Very limited flooding (very limited) seepage (very limited)	1.00  1.00	Very limited flooding (very limited) too sandy (very limited)	1.00  1.00	Very limited flooding (very limited) seepage (limited)	1.00  0.75	Very limited too sandy (very limited) seepage (moderately limited)	1.00  0.50

Table 13.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption field		Sewage lagoons		Sanitary landfill (trench)		Sanitary landfill (area)		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
75422: Secesh-----	Very limited flooding (very limited) percs slowly (slightly limited)	1.00  0.25	Very limited flooding (very limited) seepage (moderately limited)	1.00  0.50	Very limited flooding (very limited)	1.00	Very limited flooding (very limited)	1.00	Slightly limited small stones (slightly limited)	0.20
75423: Cedargap-----	Very limited flooding (very limited)	1.00	Very limited flooding (very limited) seepage (very limited)	1.00 1.00	Very limited flooding (very limited) seepage (limited) too clayey (slightly limited)	1.00 0.67 0.04	Very limited flooding (very limited) seepage (limited)	1.00 0.88	Very limited small stones >35% (very limited) seepage (slightly limited)	1.00 0.09
75424: Sandbur-----	Very limited flooding (very limited)	1.00	Very limited flooding (very limited) seepage (very limited)	1.00 1.00	Very limited flooding (very limited) seepage (limited)	1.00 0.79	Very limited flooding (very limited) seepage (limited)	1.00 0.75	Moderately limited seepage (moderately limited)	0.50
99001: Water-----	Not rated		Not rated		Not rated		Not rated		Not rated	
99002: Borrow areas--	Not rated		Not rated		Not rated		Not rated		Not rated	

Table 14.--Construction Materials and Excavating

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Roadfill		Sand		Gravel		Topsoil		Shallow excavations	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
70026: Tonti-----	Moderately limited wetness (moderately limited)	0.48	Improbable excess fines (thickest layer)	1.00	Probable excess fines (bottom layer)	0.75	Very limited small stones (very limited)	1.00	Very limited dense layer <20" (very limited)	1.00
	shrink-swell (slightly limited)	0.04	excess fines (bottom layer)	1.00	probable source (thickest layer)	0.50	dense layer <20" (very limited)	1.00	wetness (very limited)	1.00
							area reclaim (very limited)	1.00	cutbanks cave (very limited)	1.00
73000: Pomme-----	Not limited		Improbable excess fines (thickest layer)	1.00	Improbable excess fines (thickest layer)	1.00	Limited small stones (limited)	0.92	Very limited cutbanks cave (very limited)	1.00
			excess fines (bottom layer)	1.00	excess fines (bottom layer)	1.00	too clayey (limited)	0.61	too clayey (very limited)	1.00
							too acid (slightly limited)	0.18		
73015: Viraton-----	Very limited wetness (very limited)	1.00	Improbable excess fines (thickest layer)	1.00	Probable excess fines (bottom layer)	1.00	Very limited wetness (very limited)	1.00	Very limited dense layer <20" (very limited)	1.00
	shrink-swell (slightly limited)	0.20	excess fines (bottom layer)	1.00	probable source (thickest layer)	0.25	small stones (very limited)	1.00	wetness (very limited)	1.00
							dense layer <20" (very limited)	1.00	cutbanks cave (very limited)	1.00
73017: Bendavis-----	Very limited depth to bedrock (very limited)	1.00	Improbable excess fines (thickest layer)	1.00	Possible excess fines (bottom layer)	0.75	Very limited slope (very limited)	1.00	Very limited hard bedrock <40" (very limited)	1.00
	slope (very limited)	1.00	excess fines (bottom layer)	1.00	excess fines (thickest layer)	0.75	small stones (very limited)	1.00	slope (very limited)	1.00
	wetness (slightly limited)	0.12					large surface stones (limited)	0.70	cutbanks cave (very limited)	1.00



Table 14.--Construction Materials and Excavating--Continued

Map symbol and soil name	Roadfill		Sand		Gravel		Topsoil		Shallow excavations	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73017: Poynor-----	Very limited low strength (very limited) slope (limited) shrink-swell (slightly limited)	1.00 0.92 0.14	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00	Probable excess fines (bottom layer) probable source (thickest layer)	1.00 0.50	Very limited slope (very limited) small stones (very limited) too acid (moderately limited)	1.00 1.00 0.36	Very limited slope (very limited) cutbanks cave (very limited) too clayey (very limited)	1.00 1.00 1.00
73019: Poynor-----	Very limited low strength (very limited) shrink-swell (slightly limited)	1.00 0.14	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00	Probable excess fines (bottom layer) probable source (thickest layer)	1.00 0.50	Very limited small stones (very limited) too acid (moderately limited) too clayey (moderately limited)	1.00 0.42 0.33	Very limited cutbanks cave (very limited) too clayey (limited)	1.00 0.99
73023: Mano-----	Very limited low strength (very limited) shrink-swell (moderately limited) wetness (slightly limited)	1.00 0.50 0.12	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00	Probable excess fines (bottom layer) probable source (thickest layer)	1.00 0.50	Very limited small stones (very limited) too acid (slightly limited) wetness (slightly limited)	1.00 0.30 0.12	Very limited cutbanks cave (very limited) too clayey (very limited) wetness (very limited)	1.00 1.00 1.00
Ocie-----	Very limited low strength (very limited) shrink-swell (limited) depth to bedrock (slightly limited)	1.00 0.71 0.25	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00	Improbable excess fines (bottom layer) excess fines (thickest layer)	1.00 1.00	Very limited too clayey (very limited) small stones (limited) wetness (slightly limited)	1.00 0.88 0.12	Very limited too clayey (very limited) cutbanks cave (very limited) wetness (very limited)	1.00 1.00 1.00
73024: Mano-----	Very limited low strength (very limited) shrink-swell (moderately limited) wetness (slightly limited)	1.00 0.50 0.12	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00	Probable excess fines (bottom layer) probable source (thickest layer)	1.00 0.50	Very limited small stones (very limited) slope (limited) too acid (moderately limited)	1.00 0.63 0.48	Very limited cutbanks cave (very limited) too clayey (very limited) wetness (very limited)	1.00 1.00 1.00

Table 14.--Construction Materials and Excavating--Continued

Map symbol and soil name	Roadfill		Sand		Gravel		Topsoil		Shallow excavations	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73024: Ocie-----	Very limited low strength (very limited) shrink-swell (limited) depth to bedrock (slightly limited)	1.00 0.71 0.25	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00	Improbable excess fines (bottom layer) excess fines (thickest layer)	1.00 1.00	Very limited too clayey (very limited) small stones (very limited) slope (limited)	1.00 1.00 0.63	Very limited too clayey (very limited) cutbanks cave (very limited) wetness (very limited)	1.00 1.00 1.00
73069: Tick-----	Very limited low strength (very limited) slope (limited) shrink-swell (slightly limited)	1.00 0.92 0.30	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00	Improbable excess fines (bottom layer) excess fines (thickest layer)	1.00 1.00	Very limited slope (very limited) too clayey (very limited) too acid (moderately limited)	1.00 1.00 0.42	Very limited slope (very limited) too clayey (very limited) cutbanks cave (slightly limited)	1.00 1.00 0.29
73073: Scholten----	Limited wetness (limited) shrink-swell (slightly limited)	0.82 0.25	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00	Possible excess fines (thickest layer) excess fines (bottom layer)	1.00 0.75	Very limited small stones (very limited) area reclaim (very limited) dense layer (limited)	1.00 1.00 1.00	Very limited wetness (very limited) cutbanks cave (very limited) dense layer (limited)	1.00 1.00 1.00
Poynor-----	Very limited low strength (very limited) shrink-swell (slightly limited)	1.00 0.14	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00	Possible excess fines (bottom layer) excess fines (thickest layer)	1.00 0.75	Very limited small stones (very limited) slope (limited) too acid (moderately limited)	1.00 0.63 0.42	Very limited cutbanks cave (very limited) too clayey (very limited) slope (limited)	1.00 1.00 0.63
73076: Mano-----	Very limited low strength (very limited) slope (limited) shrink-swell (moderately limited)	1.00 0.92 0.50	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00	Probable excess fines (bottom layer) probable source (thickest layer)	1.00 0.50	Very limited slope (very limited) small stones (very limited) too acid (moderately limited)	1.00 1.00 0.48	Very limited slope (very limited) cutbanks cave (very limited) too clayey (very limited)	1.00 1.00 1.00

Table 14.--Construction Materials and Excavating--Continued

Map symbol and soil name	Roadfill		Sand		Gravel		Topsoil		Shallow excavations	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73076: Ocie-----	Very limited low strength (very limited) slope (limited) shrink-swell (limited)	1.00 0.92 0.71	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00	Improbable excess fines (bottom layer) excess fines (thickest layer)	1.00 1.00	Very limited slope (very limited) too clayey (very limited) small stones (very limited)	1.00 1.00 1.00 1.00	Very limited too clayey (very limited) slope (very limited) cutbanks cave (very limited)	1.00 1.00 1.00 1.00
73198: Gressy-----	Slightly limited low strength (slightly limited) shrink-swell (slightly limited)	0.22 0.18	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00	Improbable excess fines (bottom layer) excess fines (thickest layer)	1.00 1.00	Slightly limited small stones (slightly limited) area reclaim (slightly limited)	0.12 0.08	Very limited cutbanks cave (very limited) too clayey (very limited)	1.00 1.00
Viraton-----	Moderately limited wetness (moderately limited) shrink-swell (slightly limited)	0.48 0.20	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00	Probable excess fines (bottom layer) probable source (thickest layer)	1.00 0.25	Very limited small stones (very limited) dense layer <20" (very limited) too acid (limited)	1.00 1.00 0.68	Very limited dense layer <20" (very limited) wetness (very limited) cutbanks cave (very limited)	1.00 1.00 1.00
73199: Moko-----	Very limited depth to bedrock (very limited) large stones (limited) low strength (slightly limited)	1.00 0.99 0.22	Improbable excess fines (thickest layer) excess fines (bottom layer) small stones (thickest layer)	1.00 1.00 0.83	Probable small stones (thickest layer) small stones (bottom layer) probable source (thickest layer)	0.83 0.66 0.50	Very limited depth to bedrock (very limited) small stones (very limited) large stones >25% (very limited)	1.00 1.00 1.00	Very limited hard bedrock <40" (very limited) large stones (limited) cutbanks cave (slightly limited)	1.00 0.99 0.29
Rock outcrop--	Not rated		Not rated		Not rated		Not rated		Not rated	
73220: Poynor-----	Very limited low strength (very limited) shrink-swell (slightly limited)	1.00 0.14	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00	Possible excess fines (bottom layer) excess fines (thickest layer)	1.00 0.75	Very limited small stones (very limited) slope (limited) too acid (moderately limited)	1.00 0.63 0.42	Very limited cutbanks cave (very limited) too clayey (very limited) slope (limited)	1.00 1.00 0.63

Table 14.--Construction Materials and Excavating--Continued

Map symbol and soil name	Roadfill		Sand		Gravel		Topsoil		Shallow excavations	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73221: Poynor-----	Very limited low strength (very limited) shrink-swell (slightly limited) slope (slightly limited)	1.00 0.14 0.08	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00	Probable excess fines (bottom layer) probable source (thickest layer)	1.00 0.50	Very limited small stones (very limited) slope (very limited) too acid (moderately limited)	1.00 1.00 0.36	Very limited cutbanks cave (very limited) too clayey (very limited) slope (very limited)	1.00 1.00 1.00
73222: Splitlimb----	Very limited low strength (very limited) wetness (limited) shrink-swell (moderately limited)	1.00 0.76 0.45	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00	Improbable excess fines (bottom layer) excess fines (thickest layer)	1.00 1.00	Limited wetness (limited) too acid (moderately limited) too clayey (moderately limited)	0.76 0.48 0.33	Very limited ponded (wetness) (very limited) wetness (very limited) cutbanks cave (slightly limited)	1.00 1.00 0.29
73223: Coulstone-----	Limited slope (limited)	0.92	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00	Possible excess fines (thickest layer) excess fines (bottom layer)	1.00 0.75	Very limited slope (very limited) area reclaim (very limited) small stones (very limited)	1.00 1.00 1.00	Very limited slope (very limited) cutbanks cave (very limited)	1.00 1.00
Bender-----	Very limited depth to bedrock (very limited) slope (very limited) large stones (limited)	1.00 1.00 0.76	Improbable excess fines (thickest layer) excess fines (bottom layer) small stones (thickest layer)	1.00 1.00 0.60	Possible excess fines (bottom layer) excess fines (thickest layer) small stones (thickest layer)	0.75 0.75 0.60	Very limited depth to bedrock (very limited) slope (very limited) small stones (very limited)	1.00 1.00 1.00	Very limited hard bedrock <40" (very limited) slope (very limited) large stones (limited)	1.00 1.00 0.76
73224: Moko-----	Very limited depth to bedrock (very limited) slope (limited) large stones (limited)	1.00 0.92 0.86	Improbable excess fines (thickest layer) excess fines (bottom layer) small stones (bottom layer)	1.00 1.00 1.00	Improbable excess fines (bottom layer) small stones (bottom layer) excess fines (thickest layer)	1.00 1.00 0.99	Very limited depth to bedrock (very limited) slope (very limited) small stones (very limited)	1.00 1.00 1.00	Very limited hard bedrock <40" (very limited) slope (very limited) large stones (limited)	1.00 1.00 0.86
Rock outcrop--	Not rated		Not rated		Not rated		Not rated		Not rated	

Table 14.--Construction Materials and Excavating--Continued

Map symbol and soil name	Roadfill		Sand		Gravel		Topsoil		Shallow excavations	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73225:										
Ocie-----	Very limited		Improbable		Improbable		Very limited		Very limited	
	low strength	1.00	excess fines	1.00	excess fines	1.00	too clayey	1.00	too clayey	1.00
	(very limited)		(thickest layer)		(bottom layer)		(very limited)		(very limited)	
	shrink-swell	0.71	excess fines	1.00	excess fines	1.00	small stones	1.00	cutbanks cave	1.00
	(limited)		(bottom layer)		(thickest layer)		(very limited)		(very limited)	
	depth to bedrock	0.25					wetness	0.12	wetness	1.00
	(slightly limited)						(slightly limited)		(very limited)	
Gatewood-----	Very limited		Improbable		Improbable		Very limited		Very limited	
	low strength	1.00	excess fines	1.00	excess fines	1.00	depth to bedrock	1.00	hard bedrock <40"	1.00
	(very limited)		(thickest layer)		(thickest layer)		(very limited)		(very limited)	
	depth to bedrock	1.00	excess fines	1.00	excess fines	1.00	too clayey	1.00	wetness	1.00
	(very limited)		(bottom layer)		(bottom layer)		(very limited)		(very limited)	
	shrink-swell	1.00					small stones	0.50	too clayey	1.00
	(very limited)						(moderately limited)		(very limited)	
73226:										
Ocie-----	Very limited		Improbable		Improbable		Very limited		Very limited	
	low strength	1.00	excess fines	1.00	excess fines	1.00	too clayey	1.00	too clayey	1.00
	(very limited)		(thickest layer)		(bottom layer)		(very limited)		(very limited)	
	shrink-swell	0.85	excess fines	1.00	excess fines	1.00	small stones	1.00	cutbanks cave	1.00
	(limited)		(bottom layer)		(thickest layer)		(very limited)		(very limited)	
	depth to bedrock	0.25					wetness	0.12	wetness	1.00
	(slightly limited)						(slightly limited)		(very limited)	
Gatewood-----	Very limited		Improbable		Improbable		Very limited		Very limited	
	low strength	1.00	excess fines	1.00	excess fines	1.00	depth to bedrock	1.00	hard bedrock <40"	1.00
	(very limited)		(thickest layer)		(thickest layer)		(very limited)		(very limited)	
	depth to bedrock	1.00	excess fines	1.00	excess fines	1.00	too clayey	1.00	wetness	1.00
	(very limited)		(bottom layer)		(bottom layer)		(very limited)		(very limited)	
	shrink-swell	1.00					small stones	0.50	too clayey	1.00
	(very limited)						(moderately limited)		(very limited)	
73227:										
Ocie-----	Very limited		Improbable		Improbable		Very limited		Very limited	
	low strength	1.00	excess fines	1.00	excess fines	1.00	slope	1.00	slope	1.00
	(very limited)		(thickest layer)		(bottom layer)		(very limited)		(very limited)	
	slope	1.00	excess fines	1.00	excess fines	1.00	too clayey	1.00	cutbanks cave	1.00
	(very limited)		(bottom layer)		(thickest layer)		(very limited)		(very limited)	
	shrink-swell	0.85					small stones	0.88	too clayey	1.00
	(limited)						(limited)		(very limited)	

Table 14.--Construction Materials and Excavating--Continued

Map symbol and soil name	Roadfill		Sand		Gravel		Topsoil		Shallow excavations	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73227: Gatewood-----	Very limited low strength (very limited) depth to bedrock (very limited) shrink-swell (very limited)	1.00 1.00 1.00 1.00	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00 1.00	Improbable excess fines (bottom layer) excess fines (thickest layer)	1.00 1.00 1.00	Very limited slope (very limited) too clayey (very limited) depth to bedrock (limited)	1.00 1.00 1.00 0.68	Very limited hard bedrock <40" (very limited) slope (very limited) wetness (very limited)	1.00 1.00 1.00 1.00
73228: Gatewood-----	Very limited low strength (very limited) depth to bedrock (very limited) shrink-swell (very limited)	1.00 1.00 1.00 1.00	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00 1.00	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00 1.00	Very limited depth to bedrock (very limited) too clayey (very limited) small stones (moderately limited)	1.00 1.00 1.00 0.50	Very limited hard bedrock <40" (very limited) wetness (very limited) too clayey (very limited)	1.00 1.00 1.00 1.00
Moko-----	Very limited depth to bedrock (very limited) large stones (limited) low strength (slightly limited)	1.00 0.86 0.22	Improbable excess fines (thickest layer) excess fines (bottom layer) small stones (bottom layer)	1.00 1.00 1.00	Improbable excess fines (bottom layer) small stones (bottom layer) excess fines (thickest layer)	1.00 1.00 0.99	Very limited depth to bedrock (very limited) small stones (very limited) large stones >25% (very limited)	1.00 1.00 1.00 1.00	Very limited hard bedrock <40" (very limited) large stones (limited) cutbanks cave (slightly limited)	1.00 0.86 0.29
73229: Gatewood-----	Very limited low strength (very limited) depth to bedrock (very limited) shrink-swell (very limited)	1.00 1.00 1.00 1.00	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00 1.00	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00 1.00	Very limited depth to bedrock (very limited) slope (very limited) too clayey (very limited)	1.00 1.00 1.00 1.00	Very limited hard bedrock <40" (very limited) slope (very limited) wetness (very limited)	1.00 1.00 1.00 1.00
Moko-----	Very limited depth to bedrock (very limited) slope (limited) large stones (limited)	1.00 0.92 0.86	Improbable excess fines (thickest layer) excess fines (bottom layer) small stones (bottom layer)	1.00 1.00 1.00	Improbable excess fines (bottom layer) small stones (bottom layer) excess fines (thickest layer)	1.00 1.00 0.99	Very limited depth to bedrock (very limited) slope (very limited) small stones (very limited)	1.00 1.00 1.00 1.00	Very limited hard bedrock <40" (very limited) slope (very limited) large stones (limited)	1.00 1.00 0.86



Table 14.--Construction Materials and Excavating--Continued

Map symbol and soil name	Roadfill		Sand		Gravel		Topsoil		Shallow excavations	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73230: Coulstone-----	Limited slope (limited) large stones (limited)	0.92  0.88	Improbable excess fines (thickest layer) excess fines (bottom layer) large stones (bottom layer)	1.00  1.00  0.30	Possible excess fines (thickest layer) excess fines (bottom layer) large stones (thickest layer)	1.00  0.75  0.30	Very limited slope (very limited) small stones (very limited) area reclaim (very limited)	1.00  1.00  1.00	Very limited slope (very limited) large stones (limited) cutbanks cave (slightly limited)	1.00  0.88  0.29
Bender-----	Very limited depth to bedrock (very limited) slope (very limited) large stones (limited)	1.00  1.00  0.71	Improbable excess fines (thickest layer) excess fines (bottom layer) small stones (thickest layer)	1.00  1.00  0.60	Possible excess fines (bottom layer) excess fines (thickest layer) small stones (thickest layer)	0.75  0.75  0.60	Very limited depth to bedrock (very limited) slope (very limited) small stones (very limited)	1.00  1.00  1.00	Very limited hard bedrock <40" (very limited) slope (very limited) large stones (limited)	1.00  1.00  0.71
Gatewood-----	Very limited low strength (very limited) depth to bedrock (very limited) shrink-swell (very limited)	1.00  1.00  1.00	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00  1.00	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00  1.00	Very limited depth to bedrock (very limited) slope (very limited) too clayey (very limited)	1.00  1.00  1.00	Very limited hard bedrock <40" (very limited) slope (very limited) wetness (very limited)	1.00  1.00  1.00
73231: Wasola-----	Moderately limited shrink-swell (moderately limited) wetness (moderately limited)	0.53  0.48	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00  1.00	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00  1.00	Very limited area reclaim (very limited) small stones (limited) wetness (moderately limited)	1.00  0.72  0.48	Very limited wetness (very limited) cutbanks cave (very limited) too clayey (slightly limited)	1.00  1.00  0.15
73232: Alred-----	Very limited low strength (very limited) shrink-swell (moderately limited)	1.00  0.50	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00  1.00	Probable excess fines (bottom layer) probable source (thickest layer)	1.00  0.50	Very limited small stones (very limited) too acid (slightly limited)	1.00  0.30	Very limited cutbanks cave (very limited) too clayey (very limited)	1.00  1.00

Table 14.--Construction Materials and Excavating--Continued

Map symbol and soil name	Roadfill		Sand		Gravel		Topsoil		Shallow excavations	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73232: Ocie-----	Very limited low strength (very limited) shrink-swell (limited) depth to bedrock (slightly limited)	1.00 0.71 0.25	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00	Improbable excess fines (bottom layer) excess fines (thickest layer)	1.00 1.00	Very limited too clayey (very limited) small stones (very limited) wetness (slightly limited)	1.00 1.00 0.12	Very limited too clayey (very limited) cutbanks cave (very limited) wetness (very limited)	1.00 1.00 1.00
73233: Alred-----	Very limited low strength (very limited) shrink-swell (moderately limited)	1.00 0.50	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00	Probable excess fines (bottom layer) probable source (thickest layer)	1.00 0.50	Very limited small stones (very limited) slope (limited) too acid (slightly limited)	1.00 0.63 0.30	Very limited cutbanks cave (very limited) too clayey (very limited) slope (limited)	1.00 1.00 0.63
Ocie-----	Very limited low strength (very limited) shrink-swell (limited) depth to bedrock (slightly limited)	1.00 0.71 0.25	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00	Improbable excess fines (bottom layer) excess fines (thickest layer)	1.00 1.00	Very limited too clayey (very limited) small stones (very limited) slope (limited)	1.00 1.00 0.63	Very limited too clayey (very limited) cutbanks cave (very limited) wetness (very limited)	1.00 1.00 1.00
73234: Alred-----	Very limited low strength (very limited) slope (limited) shrink-swell (limited)	1.00 0.92 0.62	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00	Probable excess fines (bottom layer) probable source (thickest layer)	1.00 0.42	Very limited slope (very limited) small stones (very limited) large stones >25% (very limited)	1.00 1.00 1.00	Very limited slope (very limited) too clayey (very limited) cutbanks cave (slightly limited)	1.00 1.00 0.29
Gatewood-----	Very limited low strength (very limited) depth to bedrock (very limited) shrink-swell (very limited)	1.00 1.00 1.00	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00	Improbable excess fines (bottom layer) excess fines (thickest layer)	1.00 1.00	Very limited slope (very limited) too clayey (very limited) depth to bedrock (limited)	1.00 1.00 0.68	Very limited hard bedrock <40" (very limited) slope (very limited) wetness (very limited)	1.00 1.00 1.00

Table 14.--Construction Materials and Excavating--Continued

Map symbol and soil name	Roadfill		Sand		Gravel		Topsoil		Shallow excavations	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73235: Alred-----	Very limited low strength (very limited) slope (very limited) shrink-swell (limited)	1.00 1.00 1.00 0.62	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00	Probable excess fines (bottom layer) probable source (thickest layer)	1.00 0.42	Very limited slope (very limited) small stones (very limited)	1.00 1.00	Very limited slope (very limited) too clayey (very limited) cutbanks cave (slightly limited)	1.00 1.00 0.29
73236: Scholten-----	Limited wetness (limited) shrink-swell (slightly limited)	0.82 0.04	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00	Possible excess fines (thickest layer) excess fines (bottom layer)	1.00 0.62	Very limited small stones (very limited) area reclaim (very limited) dense layer (limited)	1.00 1.00 1.00	Very limited wetness (very limited) cutbanks cave (very limited) dense layer (limited)	1.00 1.00 1.00
Poynor-----	Very limited low strength (very limited) shrink-swell (slightly limited)	1.00 0.14	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00	Probable excess fines (bottom layer) probable source (thickest layer)	1.00 0.50	Very limited small stones (very limited) too acid (moderately limited)	1.00 0.36	Very limited cutbanks cave (very limited) too clayey (very limited)	1.00 1.00
73237: Clarksville---	Slightly limited large stones (slightly limited) shrink-swell (slightly limited)	0.29 0.09	Improbable excess fines (thickest layer) excess fines (bottom layer) small stones (thickest layer)	1.00 1.00 0.66	Possible excess fines (bottom layer) excess fines (thickest layer) small stones (thickest layer)	0.99 0.99 0.66	Very limited small stones (very limited) area reclaim (very limited) large surface stones (limited)	1.00 1.00 0.79	Limited too clayey (limited) cutbanks cave (slightly limited) large stones (slightly limited)	0.83 0.29 0.29
73239: Rueter-----	Limited slope (limited) large stones (slightly limited) shrink-swell (slightly limited)	0.92 0.29 0.09	Improbable excess fines (thickest layer) excess fines (bottom layer) small stones (thickest layer)	1.00 1.00 0.66	Possible excess fines (bottom layer) excess fines (thickest layer) small stones (thickest layer)	0.99 0.99 0.66	Very limited slope (very limited) small stones (very limited) area reclaim (very limited)	1.00 1.00 1.00	Very limited slope (very limited) too clayey (limited) cutbanks cave (slightly limited)	1.00 0.83 0.29
Rock outcrop--	Not rated		Not rated		Not rated		Not rated		Not rated	

Table 14.--Construction Materials and Excavating--Continued

Map symbol and soil name	Roadfill		Sand		Gravel		Topsoil		Shallow excavations	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73240: Jerktail-----	Very limited shrink-swell (very limited) wetness (moderately limited)	1.00  0.48	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00  1.00	Improbable excess fines (bottom layer) excess fines (thickest layer)	1.00  1.00	Very limited too clayey (very limited) small stones (very limited) area reclaim (limited)	1.00  1.00 0.92	Very limited wetness (very limited) cutbanks cave (very limited) too clayey (very limited)	1.00  1.00 1.00
73242: Fanchon-----	Not limited		Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00  1.00	Possible excess fines (bottom layer) excess fines (thickest layer)	1.00  0.99	Slightly limited too acid (slightly limited)	0.24	Very limited cutbanks cave (very limited) too clayey (very limited)	1.00  1.00
Tonti-----	Limited wetness (limited) shrink-swell (slightly limited)	0.78  0.01	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00  1.00	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00  1.00	Very limited dense layer <20" (very limited) wetness (limited) small stones (moderately limited)	1.00  0.78 0.50	Very limited dense layer <20" (very limited) wetness (very limited) cutbanks cave (very limited)	1.00  1.00 1.00
73243: Topazmill-----	Not limited		Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00  1.00	Improbable excess fines (bottom layer) excess fines (thickest layer)	1.00  1.00	Not limited		Slightly limited cutbanks cave (slightly limited)	0.29
73245: Alred-----	Very limited low strength (very limited) shrink-swell (moderately limited)	1.00  0.50	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00  1.00	Probable excess fines (bottom layer) probable source (thickest layer)	1.00  0.50	Very limited small stones (very limited) too acid (slightly limited)	1.00  0.30	Very limited cutbanks cave (very limited) too clayey (very limited)	1.00  1.00

Table 14.--Construction Materials and Excavating--Continued

Map symbol and soil name	Roadfill		Sand		Gravel		Topsoil		Shallow excavations	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73246: Alred-----	Very limited low strength (very limited) shrink-swell (moderately limited)	1.00 0.50	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00	Probable excess fines (bottom layer) probable source (thickest layer)	1.00 0.50	Very limited small stones (very limited) slope (limited) too acid (slightly limited)	1.00 0.63 0.30	Very limited cutbanks cave (very limited) too clayey (very limited) slope (limited)	1.00 1.00 0.63
73247: Alred-----	Very limited low strength (very limited) slope (limited) shrink-swell (limited)	1.00 0.92 0.62	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00	Probable excess fines (bottom layer) probable source (thickest layer)	1.00 0.42	Very limited slope (very limited) small stones (very limited) large stones (slightly limited)	1.00 1.00 0.01	Very limited slope (very limited) too clayey (very limited) cutbanks cave (slightly limited)	1.00 1.00 0.29
73248: Alred-----	Very limited low strength (very limited) shrink-swell (limited) large stones (slightly limited)	1.00 0.62 0.01	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00	Probable excess fines (bottom layer) probable source (thickest layer)	1.00 0.42	Very limited small stones (very limited) large stones >25% (very limited) slope (limited)	1.00 1.00 0.63	Very limited too clayey (very limited) slope (limited) cutbanks cave (slightly limited)	1.00 0.63 0.29
Bendavis-----	Very limited depth to bedrock (very limited) wetness (slightly limited)	1.00 0.12	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00	Possible excess fines (bottom layer) excess fines (thickest layer)	0.75 0.75	Very limited depth to bedrock (very limited) small stones (very limited) slope (limited)	1.00 1.00 0.63	Very limited hard bedrock <40" (very limited) cutbanks cave (very limited) wetness (very limited)	1.00 1.00 1.00
73249: Alred-----	Very limited low strength (very limited) slope (limited) shrink-swell (limited)	1.00 0.92 0.62	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00	Probable excess fines (bottom layer) probable source (thickest layer)	1.00 0.42	Very limited slope (very limited) small stones (very limited) large stones >25% (very limited)	1.00 1.00 1.00	Very limited slope (very limited) too clayey (very limited) cutbanks cave (slightly limited)	1.00 1.00 0.29

Table 14.--Construction Materials and Excavating--Continued

Map symbol and soil name	Roadfill		Sand		Gravel		Topsoil		Shallow excavations	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73249:										
Ocie-----	Very limited		Improbable		Improbable		Very limited		Very limited	
	low strength	1.00	excess fines	1.00	excess fines	1.00	slope	1.00	too clayey	1.00
	(very limited)		(thickest layer)		(bottom layer)		(very limited)		(very limited)	
	slope	0.92	excess fines	1.00	excess fines	1.00	too clayey	1.00	slope	1.00
	(limited)		(bottom layer)		(thickest layer)		(very limited)		(very limited)	
	shrink-swell	0.71					small stones	1.00	cutbanks cave	1.00
	(limited)						(very limited)		(very limited)	
Bendavis-----	Very limited		Improbable		Possible		Very limited		Very limited	
	depth to bedrock	1.00	excess fines	1.00	excess fines	0.99	slope	1.00	hard bedrock <40"	1.00
	(very limited)		(thickest layer)		(bottom layer)		(very limited)		(very limited)	
	slope	1.00	excess fines	1.00	excess fines	0.99	small stones	1.00	slope	1.00
	(very limited)		(bottom layer)		(thickest layer)		(very limited)		(very limited)	
	wetness	0.12					large surface stones	0.70	cutbanks cave	1.00
	(slightly limited)						(limited)		(very limited)	
74626:										
Tanglenook----	Very limited		Improbable		Improbable		Very limited		Very limited	
	low strength	1.00	excess fines	1.00	excess fines	1.00	wetness	1.00	wetness	1.00
	(very limited)		(thickest layer)		(bottom layer)		(very limited)		(very limited)	
	wetness	1.00	excess fines	1.00	excess fines	1.00	too clayey	1.00	too clayey	0.68
	(very limited)		(bottom layer)		(thickest layer)		(very limited)		(limited)	
	shrink-swell	1.00							cutbanks cave	0.29
	(very limited)								(slightly limited)	
74657:										
Pomme-----	Not limited		Improbable		Probable		Very limited		Very limited	
			excess fines	1.00	probable source	0.46	small stones	1.00	cutbanks cave	1.00
			(thickest layer)		(thickest layer)		(very limited)		(very limited)	
			excess fines	1.00	probable source	0.38	area reclaim	1.00	too clayey	1.00
			(bottom layer)		(bottom layer)		(very limited)		(very limited)	
							too clayey	0.61		
							(limited)			
74658:										
Zanoni-----	Not limited		Improbable		Probable		Very limited		Very limited	
			excess fines	1.00	excess fines	1.00	area reclaim	1.00	cutbanks cave	1.00
			(thickest layer)		(thickest layer)		(very limited)		(very limited)	
			excess fines	1.00	probable source	0.25	too sandy	0.63		
			(bottom layer)		(bottom layer)		(limited)			



Table 14.--Construction Materials and Excavating--Continued

Map symbol and soil name	Roadfill		Sand		Gravel		Topsoil		Shallow excavations	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
75382: Cedargap-----	Not limited		Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00	Possible excess fines (thickest layer) excess fines (bottom layer)	0.99 0.75	Very limited small stones (very limited) area reclaim (very limited) too clayey (slightly limited)	1.00 1.00 0.08	Very limited cutbanks cave (very limited) flooding (moderately limited) wetness (slightly limited)	1.00 0.60 0.16
75390: Razort-----	Not limited		Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00	Limited area reclaim (limited)	0.92	Very limited cutbanks cave (very limited)	1.00
75406: Racket-----	Limited low strength (limited) shrink-swell (slightly limited)	0.78 0.20	Probable excess fines (thickest layer) probable source (bottom layer)	1.00 0.44	Probable excess fines (thickest layer) probable source (bottom layer)	1.00 0.42	Very limited area reclaim (very limited)	1.00	Very limited cutbanks cave (very limited) flooding (moderately limited) wetness (slightly limited)	1.00 0.60 0.16
75417: Relfe-----	Not limited		Probable excess fines (thickest layer) probable source (bottom layer)	1.00 0.26	Probable excess fines (thickest layer) probable source (bottom layer)	0.75 0.25	Very limited too sandy (very limited) small stones (very limited) area reclaim (very limited)	1.00 1.00	Very limited cutbanks cave (very limited) flooding (moderately limited)	1.00 0.60
Sandbur-----	Not limited		Possible excess fines (thickest layer) excess fines (bottom layer)	1.00 0.97	Possible excess fines (thickest layer) excess fines (bottom layer)	1.00 0.99	Very limited area reclaim (very limited) too sandy (limited)	1.00 0.76	Very limited cutbanks cave (very limited) flooding (moderately limited)	1.00 0.60

Table 14.--Construction Materials and Excavating--Continued

Map symbol and soil name	Roadfill		Sand		Gravel		Topsoil		Shallow excavations	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
75422: Secesh-----	Not limited		Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00	Very limited small stones (very limited) area reclaim (very limited) too clayey (slightly limited)	1.00 1.00 0.25	Very limited cutbanks cave (very limited) flooding (moderately limited)	1.00 0.60
75423: Cedargap-----	Not limited		Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00	Probable probable source (thickest layer) probable source (bottom layer)	0.50 0.46	Very limited small stones (very limited) area reclaim (very limited) too sandy (moderately limited)	1.00 1.00 0.52	Very limited cutbanks cave (very limited) flooding (moderately limited)	1.00 0.60
75424: Sandbur-----	Not limited		Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00	Improbable excess fines (bottom layer) excess fines (thickest layer)	1.00 1.00	Limited too sandy (limited)	0.76	Very limited cutbanks cave (very limited) flooding (moderately limited)	1.00 0.60
99001: Water-----	Not rated		Not rated		Not rated		Not rated		Not rated	
99002: Borrow areas--	Not rated		Not rated		Not rated		Not rated		Not rated	

Table 15.--Water Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pond reservoir areas		Drainage		Irrigation		Terraces and diversions		Grassed waterways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
70026: Tonti-----	Moderately limited seepage (moderately limited)	0.50	Very limited percs slowly (very limited)	1.00	Very limited percs slowly (very limited) erodes easily (moderately limited)	1.00 0.60	Moderately limited erodes easily (moderately limited) wetness (moderately limited)	0.60 0.44	Limited rooting depth (limited) erodes easily (moderately limited) wetness (moderately limited)	0.80 0.60 0.44
73000: Pomme-----	Moderately limited seepage (moderately limited) slope (slightly limited)	0.50 0.10	Moderately limited slope (moderately limited)	0.40	Moderately limited erodes easily (moderately limited) slope (moderately limited)	0.60 0.40	Moderately limited erodes easily (moderately limited) slope (slightly limited)	0.60 0.10	Moderately limited erodes easily (moderately limited) slope (slightly limited)	0.60 0.10
73015: Viraton-----	Not limited		Moderately limited large stones (moderately limited) percs slowly (moderately limited)	0.60 0.39	Moderately limited erodes easily (moderately limited) percs slowly (moderately limited)	0.60 0.39	Very limited wetness (very limited) erodes easily (moderately limited) large stones (slightly limited)	1.00 0.60 0.14	Very limited wetness (very limited) rooting depth (limited) erodes easily (moderately limited)	1.00 0.80 0.60
73017: Bendavis-----	Very limited slope (very limited) depth to bedrock (limited) seepage (moderately limited)	1.00 0.77 0.50	Very limited slope (very limited) percs slowly (very limited) large surface stones (limited)	1.00 1.00 0.70	Very limited percs slowly (very limited) slope (very limited) large surface stones (limited)	1.00 1.00 0.70	Very limited slope (very limited) depth to bedrock (very limited) large surface stones (limited)	1.00 1.00 0.70	Very limited slope (very limited) depth to bedrock (limited) large surface stones (limited)	1.00 0.77 0.70

Table 15.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Drainage		Irrigation		Terraces and diversions		Grassed waterways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73017: Poynor-----	Very limited slope (very limited) seepage (moderately limited)	1.00  0.50	Very limited slope (very limited) large surface stones (moderately limited)	1.00  0.31	Very limited slope (very limited) droughty (moderately limited) large surface stones (moderately limited)	1.00  0.57  0.31	Very limited slope (very limited) large surface stones (moderately limited)	1.00  0.31	Very limited slope (very limited) droughty (moderately limited) large surface stones (moderately limited)	1.00  0.57  0.31
73019: Poynor-----	Moderately limited seepage (moderately limited) slope (moderately limited)	0.50  0.31	Limited slope (limited)	0.98	Limited slope (limited) droughty (moderately limited)	0.98  0.57	Moderately limited slope (moderately limited)	0.31	Moderately limited droughty (moderately limited) slope (moderately limited)	0.57  0.31
73023: Mano-----	Moderately limited seepage (moderately limited) slope (slightly limited)	0.50  0.20	Limited slope (limited) percs slowly (moderately limited)	0.78  0.39	Limited slope (limited) percs slowly (moderately limited)	0.78  0.39	Slightly limited wetness (slightly limited) slope (slightly limited)	0.28  0.20	Slightly limited wetness (slightly limited) slope (slightly limited)	0.28  0.20
Ocie-----	Moderately limited seepage (moderately limited) depth to bedrock (moderately limited) slope (slightly limited)	0.50  0.40  0.20	Limited slope (limited) percs slowly (moderately limited)	0.78  0.39	Limited slope (limited) percs slowly (moderately limited)	0.78  0.39	Slightly limited wetness (slightly limited) depth to bedrock (slightly limited) slope (slightly limited)	0.28  0.25  0.20	Moderately limited depth to bedrock (moderately limited) wetness (slightly limited) slope (slightly limited)	0.40  0.28  0.20
73024: Mano-----	Limited slope (limited) seepage (moderately limited)	0.99  0.50	Very limited slope (very limited) percs slowly (moderately limited) large surface stones (moderately limited)	1.00  0.39  0.31	Very limited slope (very limited) percs slowly (moderately limited) large surface stones (moderately limited)	1.00  0.39  0.31	Limited slope (limited) large surface stones (moderately limited) wetness (slightly limited)	0.99  0.31  0.28	Limited slope (limited) large surface stones (moderately limited) wetness (slightly limited)	0.99  0.31  0.28

Table 15.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Drainage		Irrigation		Terraces and diversions		Grassed waterways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73024: Ocie-----	Limited slope (limited) seepage (moderately limited) depth to bedrock (moderately limited)	0.99 0.50 0.40	Very limited slope (very limited) percs slowly (moderately limited) large surface stones (moderately limited)	1.00 0.39 0.31	Very limited slope (very limited) percs slowly (moderately limited) large surface stones (moderately limited)	1.00 0.39 0.31	Limited slope (limited) large surface stones (moderately limited) wetness (slightly limited)	0.99 0.31 0.28	Limited slope (limited) depth to bedrock (moderately limited) large surface stones (moderately limited)	0.99 0.40 0.31
73069: Tick-----	Very limited slope (very limited)	1.00	Very limited slope (very limited) percs slowly (moderately limited) large surface stones (slightly limited)	1.00 0.34 0.07	Very limited slope (very limited) percs slowly (moderately limited) large surface stones (slightly limited)	1.00 0.34 0.07	Very limited slope (very limited) large surface stones (slightly limited)	1.00 0.07	Very limited slope (very limited) large surface stones (slightly limited)	1.00 0.07
73073: Scholten----	Limited slope (limited) seepage (limited)	0.99 0.68	Very limited slope (very limited) percs slowly (very limited)	1.00 1.00	Very limited slope (very limited) percs slowly (very limited) droughty (limited)	1.00 1.00 0.70	Limited slope (limited) wetness (moderately limited)	0.99 0.58	Limited slope (limited) rooting depth (limited) droughty (limited)	0.99 0.80 0.70
Poynor-----	Limited slope (limited) seepage (moderately limited)	0.99 0.50	Very limited slope (very limited) percs slowly (slightly limited)	1.00 0.18	Very limited slope (very limited) droughty (limited) percs slowly (slightly limited)	1.00 0.75 0.18	Limited slope (limited)	0.99	Limited slope (limited) droughty (limited)	0.99 0.75
73076: Mano-----	Very limited slope (very limited) seepage (moderately limited)	1.00 0.50	Very limited slope (very limited) percs slowly (moderately limited)	1.00 0.39	Very limited slope (very limited) percs slowly (moderately limited)	1.00 0.39	Very limited slope (very limited) wetness (slightly limited)	1.00 0.28	Very limited slope (very limited) wetness (slightly limited)	1.00 0.28

Table 15.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Drainage		Irrigation		Terraces and diversions		Grassed waterways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73076: Ocie-----	Very limited slope (very limited) seepage (moderately limited) depth to bedrock (moderately limited)	1.00 0.50 0.40	Very limited slope (very limited) percs slowly (moderately limited)	1.00 0.39	Very limited slope (very limited) percs slowly (moderately limited)	1.00 0.39	Very limited slope (very limited) wetness (slightly limited) depth to bedrock (slightly limited)	1.00 0.28 0.25	Very limited slope (very limited) depth to bedrock (moderately limited) wetness (slightly limited)	1.00 0.40 0.28
73198: Gressy-----	Limited seepage (limited) slope (slightly limited)	0.98 0.10	Moderately limited slope (moderately limited)	0.40	Moderately limited erodes easily (moderately limited) slope (moderately limited)	0.60 0.40	Moderately limited erodes easily (moderately limited) slope (slightly limited)	0.60 0.10	Moderately limited erodes easily (moderately limited) slope (slightly limited)	0.60 0.10
Viraton-----	Moderately limited seepage (moderately limited) slope (slightly limited)	0.50 0.10	Very limited percs slowly (very limited) large stones (moderately limited) slope (moderately limited)	1.00 0.60 0.40	Very limited percs slowly (very limited) erodes easily (moderately limited) slope (moderately limited)	1.00 0.60 0.40	Moderately limited erodes easily (moderately limited) wetness (moderately limited) large stones (slightly limited)	0.60 0.44 0.14	Limited rooting depth (limited) erodes easily (moderately limited) wetness (moderately limited)	0.80 0.60 0.44
73199: Moko-----	Very limited bedrock <20 in. (very limited) slope (limited)	1.00 0.70	Very limited shallow to bedrock (very limited) large stones (very limited) slope (very limited)	1.00 1.00 1.00	Very limited shallow to bedrock (very limited) droughty (very limited) slope (very limited)	1.00 1.00 1.00	Very limited depth to bedrock (very limited) large stones (very limited) slope (limited)	1.00 1.00 0.70	Very limited large stones (very limited) bedrock <20 in. (very limited) droughty (very limited)	1.00 1.00 1.00
Rock outcrop--	Not rated		Not rated		Not rated		Not rated		Not rated	
73220: Poynor-----	Limited slope (limited) seepage (moderately limited)	0.99 0.50	Very limited slope (very limited) percs slowly (slightly limited)	1.00 0.18	Very limited slope (very limited) droughty (moderately limited) percs slowly (slightly limited)	1.00 0.57 0.18	Limited slope (limited)	0.99	Limited slope (limited) droughty (moderately limited)	0.99 0.57

Table 15.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Drainage		Irrigation		Terraces and diversions		Grassed waterways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73221: Poynor-----	Very limited slope (very limited) seepage (moderately limited)	1.00  0.50	Very limited slope (very limited) large surface stones (moderately limited) percs slowly (slightly limited)	1.00  0.31  0.18	Very limited slope (very limited) droughty (moderately limited) large surface stones (moderately limited)	1.00  0.57  0.31	Very limited slope (very limited) large surface stones (moderately limited)	1.00  0.31	Very limited slope (very limited) droughty (moderately limited) large surface stones (moderately limited)	1.00  0.57  0.31
73222: Splitlimb----	Moderately limited seepage (moderately limited)	0.32	Very limited ponded (wetness) (very limited) percs slowly (slightly limited)	1.00  0.13	Very limited ponded (wetness) (very limited) erodes easily (moderately limited) percs slowly (slightly limited)	1.00  0.60  0.13	Very limited ponded (wetness) (very limited) erodes easily (moderately limited) wetness (moderately limited)	1.00  0.60  0.55	Moderately limited erodes easily (moderately limited) wetness (moderately limited)	0.60  0.55
73223: Coulstone-----	Very limited slope (very limited) seepage (very limited)	1.00  1.00	Very limited slope (very limited) large surface stones (very limited)	1.00  1.00	Very limited slope (very limited) droughty (very limited) large surface stones (very limited)	1.00  1.00  1.00	Very limited slope (very limited) large surface stones (very limited)	1.00  1.00	Very limited slope (very limited) droughty (very limited) large surface stones (very limited)	1.00  1.00  1.00
Bender-----	Very limited slope (very limited) seepage (very limited) depth to bedrock (limited)	1.00  1.00  0.86	Very limited slope (very limited) large stones (very limited) large surface stones (moderately limited)	1.00  1.00  0.43	Very limited slope (very limited) droughty (very limited) large stones (limited)	1.00  1.00  0.76	Very limited slope (very limited) depth to bedrock (very limited) large stones (very limited)	1.00  1.00  1.00	Very limited slope (very limited) droughty (very limited) large stones (very limited)	1.00  1.00  1.00
73224: Moko-----	Very limited bedrock <20 in. (very limited) slope (very limited)	1.00  1.00	Very limited slope (very limited) shallow to bedrock (very limited) large stones (limited)	1.00  1.00  0.89	Very limited shallow to bedrock (very limited) droughty (very limited) slope (very limited)	1.00  1.00  1.00	Very limited slope (very limited) depth to bedrock (very limited) large stones (very limited)	1.00  1.00  1.00	Very limited large stones (very limited) bedrock <20 in. (very limited) slope (very limited)	1.00  1.00  1.00
Rock outcrop--	Not rated		Not rated		Not rated		Not rated		Not rated	



Table 15.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Drainage		Irrigation		Terraces and diversions		Grassed waterways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73225: Ocie-----	Moderately limited seepage (moderately limited)	0.50	Limited slope (limited)	0.98	Limited slope (limited)	0.98	Moderately limited slope (moderately limited)	0.31	Moderately limited depth to bedrock (moderately limited)	0.40
	depth to bedrock (moderately limited)	0.40	percs slowly (moderately limited)	0.39	percs slowly (moderately limited)	0.39	wetness (slightly limited)	0.28	slope (moderately limited)	0.31
	slope (moderately limited)	0.31					depth to bedrock (slightly limited)	0.25	wetness (slightly limited)	0.28
Gatewood-----	Limited depth to bedrock (limited)	0.89	Limited slope (limited)	0.98	Limited slope (limited)	0.98	Very limited depth to bedrock (very limited)	1.00	Limited depth to bedrock (limited)	0.89
	slope (moderately limited)	0.31	depth to bedrock (moderately limited)	0.46	depth to bedrock (moderately limited)	0.46	wetness (moderately limited)	0.36	wetness (moderately limited)	0.36
			percs slowly (moderately limited)	0.39	percs slowly (moderately limited)	0.39	slope (moderately limited)	0.31	droughty (moderately limited)	0.31
73226: Ocie-----	Limited slope (limited)	0.70	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Limited slope (limited)	0.70	Limited slope (limited)	0.70
	seepage (moderately limited)	0.50	percs slowly (moderately limited)	0.39	percs slowly (moderately limited)	0.39	wetness (slightly limited)	0.28	depth to bedrock (moderately limited)	0.40
	depth to bedrock (moderately limited)	0.40					depth to bedrock (slightly limited)	0.25	wetness (slightly limited)	0.28
Gatewood-----	Limited depth to bedrock (limited)	0.89	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited depth to bedrock (very limited)	1.00	Limited depth to bedrock (limited)	0.89
	slope (limited)	0.70	depth to bedrock (moderately limited)	0.46	depth to bedrock (moderately limited)	0.46	slope (limited)	0.70	slope (limited)	0.70
			percs slowly (moderately limited)	0.39	percs slowly (moderately limited)	0.39	wetness (moderately limited)	0.36	wetness (moderately limited)	0.36
73227: Ocie-----	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00
	seepage (moderately limited)	0.50	percs slowly (moderately limited)	0.39	percs slowly (moderately limited)	0.39	wetness (slightly limited)	0.28	depth to bedrock (moderately limited)	0.40
	depth to bedrock (moderately limited)	0.40					depth to bedrock (slightly limited)	0.25	wetness (slightly limited)	0.28

Table 15.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Drainage		Irrigation		Terraces and diversions		Grassed waterways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73227: Gatewood-----	Very limited slope (very limited) depth to bedrock (limited)	1.00  0.77	Very limited slope (very limited) percs slowly (moderately limited) depth to bedrock (slightly limited)	1.00  0.39  0.13	Very limited slope (very limited) percs slowly (moderately limited) depth to bedrock (slightly limited)	1.00  0.39  0.13	Very limited slope (very limited) depth to bedrock (very limited) wetness (moderately limited)	1.00  1.00  0.36	Very limited slope (very limited) depth to bedrock (limited) wetness (moderately limited)	1.00  0.77  0.36
73228: Gatewood-----	Limited depth to bedrock (limited) slope (limited)	0.89  0.70	Very limited slope (very limited) depth to bedrock (moderately limited) percs slowly (moderately limited)	1.00  0.46  0.39	Very limited slope (very limited) depth to bedrock (moderately limited) percs slowly (moderately limited)	1.00  0.46  0.39	Very limited depth to bedrock (very limited) slope (limited) large surface stones (moderately limited)	1.00  0.70  0.37	Limited depth to bedrock (limited) slope (limited) large surface stones (moderately limited)	0.89  0.70  0.37
Moko-----	Very limited bedrock <20 in. (very limited) slope (limited)	1.00  0.70	Very limited shallow to bedrock (very limited) slope (very limited) large stones (limited)	1.00  1.00  0.89	Very limited shallow to bedrock (very limited) droughty (very limited) slope (very limited)	1.00  1.00  1.00	Very limited depth to bedrock (very limited) large stones (very limited) slope (limited)	1.00  1.00  0.70	Very limited large stones (very limited) bedrock <20 in. (very limited) droughty (very limited)	1.00  1.00  1.00
73229: Gatewood-----	Very limited slope (very limited) depth to bedrock (limited)	1.00  0.89	Very limited slope (very limited) depth to bedrock (moderately limited) percs slowly (moderately limited)	1.00  0.46  0.39	Very limited slope (very limited) depth to bedrock (moderately limited) percs slowly (moderately limited)	1.00  0.46  0.39	Very limited slope (very limited) depth to bedrock (very limited) large surface stones (moderately limited)	1.00  1.00  0.37	Very limited slope (very limited) depth to bedrock (limited) large surface stones (moderately limited)	1.00  0.89  0.37
Moko-----	Very limited bedrock <20 in. (very limited) slope (very limited)	1.00  1.00	Very limited slope (very limited) shallow to bedrock (very limited) large stones (limited)	1.00  1.00  0.89	Very limited shallow to bedrock (very limited) droughty (very limited) slope (very limited)	1.00  1.00  1.00	Very limited slope (very limited) depth to bedrock (very limited) large stones (very limited)	1.00  1.00  1.00	Very limited large stones (very limited) bedrock <20 in. (very limited) slope (very limited)	1.00  1.00  1.00

Table 15.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Drainage		Irrigation		Terraces and diversions		Grassed waterways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73230:										
Coulstone-----	Very limited slope (very limited) seepage (very limited)	1.00 1.00	Very limited slope (very limited) large stones (very limited) large surface stones (very limited)	1.00 1.00 1.00	Very limited slope (very limited) droughty (very limited) large surface stones (very limited)	1.00 1.00 1.00	Very limited slope (very limited) large surface stones (very limited) large stones (very limited)	1.00 1.00 1.00	Very limited slope (very limited) droughty (very limited) large stones (very limited)	1.00 1.00 1.00
Bender-----	Very limited slope (very limited) seepage (very limited) depth to bedrock (limited)	1.00 1.00 0.86	Very limited slope (very limited) large stones (very limited) large surface stones (moderately limited)	1.00 1.00 0.43	Very limited slope (very limited) droughty (very limited) large stones (limited)	1.00 1.00 0.71	Very limited slope (very limited) depth to bedrock (very limited) large stones (very limited)	1.00 1.00 1.00	Very limited slope (very limited) droughty (very limited) large stones (very limited)	1.00 1.00 1.00
Gatewood-----	Very limited slope (very limited) depth to bedrock (limited)	1.00 0.89	Very limited slope (very limited) depth to bedrock (moderately limited) percs slowly (moderately limited)	1.00 0.46 0.39	Very limited slope (very limited) depth to bedrock (moderately limited) percs slowly (moderately limited)	1.00 0.46 0.39	Very limited slope (very limited) depth to bedrock (very limited) wetness (moderately limited)	1.00 1.00 0.36	Very limited slope (very limited) depth to bedrock (limited) wetness (moderately limited)	1.00 0.89 0.36
73231:										
Wasola-----	Moderately limited seepage (moderately limited) slope (slightly limited)	0.50 0.10	Moderately limited slope (moderately limited) percs slowly (moderately limited)	0.40 0.39	Moderately limited slope (moderately limited) percs slowly (moderately limited)	0.40 0.39	Moderately limited wetness (moderately limited) slope (slightly limited)	0.44 0.10	Moderately limited wetness (moderately limited) slope (slightly limited)	0.44 0.10
73232:										
Alred-----	Moderately limited seepage (moderately limited) slope (slightly limited)	0.50 0.20	Limited slope (limited) percs slowly (moderately limited)	0.78 0.39	Limited slope (limited) percs slowly (moderately limited)	0.78 0.39	Slightly limited slope (slightly limited)	0.20	Slightly limited slope (slightly limited)	0.20

Table 15.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Drainage		Irrigation		Terraces and diversions		Grassed waterways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73232: Ocie-----	Moderately limited seepage (moderately limited) depth to bedrock (moderately limited) slope (slightly limited)	0.50  0.40  0.20	Limited slope (limited) percs slowly (moderately limited)	0.78  0.39	Limited slope (limited) percs slowly (moderately limited)	0.78  0.39	Slightly limited wetness (slightly limited) depth to bedrock (slightly limited) slope (slightly limited)	0.28  0.25  0.20	Moderately limited depth to bedrock (moderately limited) wetness (slightly limited) slope (slightly limited)	0.40  0.28  0.20
73233: Alred-----	Limited slope (limited) seepage (moderately limited)	0.99  0.50	Very limited slope (very limited) percs slowly (moderately limited)	1.00  0.39	Very limited slope (very limited) percs slowly (moderately limited)	1.00  0.39	Limited slope (limited)	0.99	Limited slope (limited)	0.99
Ocie-----	Limited slope (limited) seepage (moderately limited) depth to bedrock (moderately limited)	0.99  0.50  0.40	Very limited slope (very limited) percs slowly (moderately limited)	1.00  0.39	Very limited slope (very limited) percs slowly (moderately limited)	1.00  0.39	Limited slope (limited) wetness (slightly limited) depth to bedrock (slightly limited)	0.99  0.28  0.25	Limited slope (limited) depth to bedrock (moderately limited) wetness (slightly limited)	0.99  0.40  0.28
73234: Alred-----	Very limited slope (very limited) seepage (moderately limited)	1.00  0.50	Very limited slope (very limited) percs slowly (moderately limited)	1.00  0.39	Very limited slope (very limited) percs slowly (moderately limited) droughty (slightly limited)	1.00  0.39  0.02	Very limited slope (very limited) large stones (very limited)	1.00  1.00	Very limited slope (very limited) large stones (very limited) droughty (slightly limited)	1.00  1.00  0.02
Gatewood-----	Very limited slope (very limited) depth to bedrock (limited)	1.00  0.77	Very limited slope (very limited) percs slowly (moderately limited) depth to bedrock (slightly limited)	1.00  0.39  0.13	Very limited slope (very limited) percs slowly (moderately limited) depth to bedrock (slightly limited)	1.00  0.39  0.13	Very limited slope (very limited) depth to bedrock (very limited) wetness (moderately limited)	1.00  1.00  0.36	Very limited slope (very limited) depth to bedrock (limited) wetness (moderately limited)	1.00  0.77  0.36

Table 15.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Drainage		Irrigation		Terraces and diversions		Grassed waterways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73235: Alred-----	Very limited slope (very limited) seepage (moderately limited)	1.00  0.50	Very limited slope (very limited) percs slowly (moderately limited)	1.00  0.39	Very limited slope (very limited) percs slowly (moderately limited) droughty (slightly limited)	1.00  0.39  0.02	Very limited slope (very limited) large stones (limited)	1.00  0.74	Very limited slope (very limited) large stones (limited) droughty (slightly limited)	1.00  0.74  0.02
73236: Scholten-----	Limited seepage (limited) slope (moderately limited)	0.68  0.31	Very limited percs slowly (very limited) slope (limited)	1.00  0.98	Very limited percs slowly (very limited) slope (limited) droughty (limited)	1.00  0.98  0.70	Moderately limited wetness (moderately limited) slope (moderately limited)	0.58  0.31	Limited rooting depth (limited) droughty (limited) wetness (moderately limited)	0.80  0.70  0.58
Poynor-----	Limited seepage (limited) slope (slightly limited)	0.82  0.20	Limited slope (limited)	0.78	Limited slope (limited)	0.78	Slightly limited slope (slightly limited)	0.20	Slightly limited slope (slightly limited)	0.20
73237: Clarksville---	Very limited seepage (very limited) slope (limited)	1.00  0.70	Very limited large stones (very limited) slope (very limited) large surface stones (limited)	1.00  1.00  0.79	Very limited slope (very limited) large surface stones (limited) droughty (moderately limited)	1.00  0.79  0.43	Very limited large stones (very limited) large surface stones (limited) slope (limited)	1.00  0.79  0.70	Very limited large stones (very limited) large surface stones (limited) slope (limited)	1.00  0.79  0.70
73239: Rueter-----	Very limited slope (very limited) seepage (very limited)	1.00  1.00	Very limited slope (very limited) large stones (very limited) large surface stones (limited)	1.00  1.00  0.79	Very limited slope (very limited) large surface stones (limited) droughty (moderately limited)	1.00  0.79  0.43	Very limited slope (very limited) large stones (very limited) large surface stones (limited)	1.00  1.00  0.79	Very limited slope (very limited) large stones (very limited) large surface stones (limited)	1.00  1.00  0.79
Rock outcrop--	Not rated		Not rated		Not rated		Not rated		Not rated	

Table 15.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Drainage		Irrigation		Terraces and diversions		Grassed waterways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73240: Jerktail-----	Slightly limited depth to bedrock (slightly limited)	0.22	Limited slope (limited)	0.78	Limited slope (limited)	0.78	Moderately limited erodes easily (moderately limited)	0.60	Moderately limited erodes easily (moderately limited)	0.60
	slope (slightly limited)	0.20	percs slowly (moderately limited)	0.39	erodes easily (moderately limited)	0.60	wetness (moderately limited)	0.44	wetness (moderately limited)	0.44
					percs slowly (moderately limited)	0.39	slope (slightly limited)	0.20	depth to bedrock (slightly limited)	0.22
73242: Fanchon-----	Moderately limited seepage (moderately limited)	0.50	Moderately limited slope (moderately limited)	0.40	Moderately limited slope (moderately limited)	0.40	Slightly limited slope (slightly limited)	0.10	Slightly limited slope (slightly limited)	0.10
	slope (slightly limited)	0.10								
Tonti-----	Limited seepage (limited)	0.68	Very limited percs slowly (very limited)	1.00	Very limited percs slowly (very limited)	1.00	Moderately limited erodes easily (moderately limited)	0.60	Limited rooting depth (limited)	0.80
	slope (slightly limited)	0.10	slope (moderately limited)	0.40	erodes easily (moderately limited)	0.60	wetness (moderately limited)	0.56	erodes easily (moderately limited)	0.60
			large stones (slightly limited)	0.18	slope (moderately limited)	0.40	slope (slightly limited)	0.10	wetness (moderately limited)	0.56
73243: Topazmill-----	Moderately limited seepage (moderately limited)	0.50	Moderately limited slope (moderately limited)	0.40	Moderately limited slope (moderately limited)	0.40	Slightly limited slope (slightly limited)	0.10	Slightly limited slope (slightly limited)	0.10
	slope (slightly limited)	0.10								
73245: Alred-----	Moderately limited seepage (moderately limited)	0.50	Limited slope (limited)	0.78	Limited slope (limited)	0.78	Slightly limited slope (slightly limited)	0.20	Slightly limited slope (slightly limited)	0.20
	slope (slightly limited)	0.20	percs slowly (moderately limited)	0.39	percs slowly (moderately limited)	0.39				
73246: Alred-----	Limited slope (limited)	0.99	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Limited slope (limited)	0.99	Limited slope (limited)	0.99
	seepage (moderately limited)	0.50	percs slowly (moderately limited)	0.39	percs slowly (moderately limited)	0.39				

Table 15.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Drainage		Irrigation		Terraces and diversions		Grassed waterways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73247: Alred-----	Very limited slope (very limited) seepage (moderately limited)	1.00  0.50	Very limited slope (very limited) percs slowly (moderately limited)	1.00  0.39	Very limited slope (very limited) percs slowly (moderately limited) droughty (slightly limited)	1.00  0.39  0.02	Very limited slope (very limited) large stones (limited)	1.00  0.80	Very limited slope (very limited) large stones (limited) droughty (slightly limited)	1.00  0.80  0.02
73248: Alred-----	Limited slope (limited) seepage (moderately limited)	0.99  0.50	Very limited slope (very limited) percs slowly (limited) large surface stones (slightly limited)	1.00  0.70  0.13	Very limited slope (very limited) percs slowly (limited) large surface stones (slightly limited)	1.00  0.70  0.13	Very limited large stones (very limited) slope (limited) large surface stones (slightly limited)	1.00  0.99  0.13	Very limited large stones (very limited) slope (limited) large surface stones (slightly limited)	1.00  0.99  0.13
Bendavis-----	Limited slope (limited) depth to bedrock (limited) seepage (moderately limited)	0.99  0.92  0.50	Very limited slope (very limited) depth to bedrock (moderately limited) large surface stones (slightly limited)	1.00  0.58  0.13	Very limited slope (very limited) depth to bedrock (moderately limited) droughty (moderately limited)	1.00  0.58  0.45	Very limited depth to bedrock (very limited) slope (limited) wetness (slightly limited)	1.00  0.99  0.28	Limited slope (limited) depth to bedrock (limited) droughty (moderately limited)	0.99  0.92  0.45
73249: Alred-----	Very limited slope (very limited) seepage (moderately limited)	1.00  0.50	Very limited slope (very limited) percs slowly (moderately limited) large surface stones (slightly limited)	1.00  0.39  0.13	Very limited slope (very limited) percs slowly (moderately limited) large surface stones (slightly limited)	1.00  0.39  0.13	Very limited slope (very limited) large stones (very limited) large surface stones (slightly limited)	1.00  1.00  0.13	Very limited slope (very limited) large stones (very limited) large surface stones (slightly limited)	1.00  1.00  0.13
Ocie-----	Very limited slope (very limited) seepage (moderately limited) depth to bedrock (moderately limited)	1.00  0.50  0.40	Very limited slope (very limited) large surface stones (limited) percs slowly (moderately limited)	1.00  0.70  0.39	Very limited slope (very limited) large surface stones (limited) percs slowly (moderately limited)	1.00  0.70  0.39	Very limited slope (very limited) large surface stones (limited) wetness (slightly limited)	1.00  0.70  0.28	Very limited slope (very limited) large surface stones (limited) depth to bedrock (moderately limited)	1.00  0.70  0.40



Table 15.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Drainage		Irrigation		Terraces and diversions		Grassed waterways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73249: Bendavis-----	Very limited slope (very limited) depth to bedrock (limited) seepage (moderately limited)	1.00  0.77  0.50	Very limited slope (very limited) percs slowly (very limited) large surface stones (limited)	1.00  1.00  0.70	Very limited percs slowly (very limited) slope (very limited) large surface stones (limited)	1.00  1.00  0.70	Very limited slope (very limited) depth to bedrock (very limited) large surface stones (limited)	1.00  1.00  0.70	Very limited slope (very limited) depth to bedrock (limited) large surface stones (limited)	1.00  0.77  0.70
74626: Tanglenook----	Not limited		Moderately limited percs slowly (moderately limited)	0.39	Moderately limited erodes easily (moderately limited) percs slowly (moderately limited)	0.60  0.39	Very limited wetness (very limited) erodes easily (moderately limited)	1.00  0.60	Very limited wetness (very limited) erodes easily (moderately limited)	1.00  0.60
74657: Pomme-----	Moderately limited seepage (moderately limited) slope (slightly limited)	0.50  0.20	Limited slope (limited)	0.78	Limited slope (limited)	0.78	Slightly limited slope (slightly limited)	0.20	Slightly limited slope (slightly limited)	0.20
74658: Zanoni-----	Very limited seepage (very limited)	1.00	Not limited		Not limited		Not limited		Not limited	
75382: Cedargap-----	Moderately limited seepage (moderately limited)	0.50	Limited flooding (limited)	0.90	Limited flooding (limited)	0.90	Not limited		Not limited	
75390: Razort-----	Very limited seepage (very limited)	1.00	Not limited		Moderately limited erodes easily (moderately limited)	0.60	Moderately limited erodes easily (moderately limited)	0.60	Moderately limited erodes easily (moderately limited)	0.60
75406: Racket-----	Very limited seepage (very limited)	1.00	Limited flooding (limited)	0.90	Limited flooding (limited)	0.90	Not limited		Not limited	

Table 15.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Drainage		Irrigation		Terraces and diversions		Grassed waterways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
75417: Relfe-----	Very limited seepage (very limited)	1.00	Limited flooding (limited)	0.90	Very limited droughty (very limited) flooding (limited)	1.00 0.90	Moderately limited too sandy (moderately limited)	0.60	Very limited droughty (very limited)	1.00
Sandbur-----	Very limited seepage (very limited)	1.00	Limited flooding (limited)	0.90	Limited flooding (limited)	0.90	Very limited too sandy (very limited)	1.00	Not limited	
75422: Secesh-----	Moderately limited seepage (moderately limited)	0.50	Moderately limited flooding (moderately limited) large stones (moderately limited)	0.60 0.51	Moderately limited flooding (moderately limited)	0.60	Slightly limited large stones (slightly limited)	0.29	Slightly limited large stones (slightly limited)	0.29
75423: Cedargap-----	Very limited seepage (very limited)	1.00	Moderately limited flooding (moderately limited)	0.60	Moderately limited flooding (moderately limited) droughty (slightly limited)	0.60 0.17	Not limited		Slightly limited droughty (slightly limited)	0.17
75424: Sandbur-----	Very limited seepage (very limited)	1.00	Limited flooding (limited)	0.90	Limited flooding (limited)	0.90	Not limited		Not limited	
99001: Water-----	Not rated		Not rated		Not rated		Not rated		Not rated	
99002: Borrow areas--	Not rated		Not rated		Not rated		Not rated		Not rated	

Table 16.--Waste Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Land application of manure and food-processing waste		Land application of municipal sewage sludge		Disposal of wastewater by irrigation		Treatment of wastewater by slow rate process		Treatment of wastewater by rapid infiltration process	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
70026: Tonti-----	Moderately limited wetness (moderately limited) too acid (slightly limited)	0.44  0.30	Moderately limited wetness (moderately limited) too acid (slightly limited)	0.44  0.30	Moderately limited wetness (moderately limited) too acid (slightly limited)	0.44  0.30	Moderately limited wetness (moderately limited) too acid (slightly limited)	0.44  0.30	Very limited percs slowly (very limited) wetness (very limited) too acid (slightly limited)	1.00  1.00  0.14
73000: Pomme-----	Not limited		Not limited		Slightly limited slope (slightly limited)	0.10	Slightly limited slope (slightly limited)	0.10	Very limited percs slowly (very limited) slope (moderately limited)	1.00  0.31
73015: Viraton-----	Very limited wetness (very limited) too acid (moderately limited)	1.00  0.42	Very limited wetness (very limited) too acid (moderately limited)	1.00  0.42	Very limited wetness (very limited) too acid (moderately limited)	1.00  0.42	Very limited wetness (very limited) too acid (moderately limited)	1.00  0.42	Very limited percs slowly (very limited) wetness (very limited) too acid (moderately limited)	1.00  1.00  0.31
73017: Bendavis-----	Very limited slope (very limited) too acid (limited) large surface stones (limited)	1.00  0.84  0.70	Very limited slope (very limited) too acid (limited) large surface stones (limited)	1.00  0.84  0.70	Very limited slope (very limited) too acid (limited) large surface stones (limited)	1.00  0.84  0.70	Very limited depth to bedrock (very limited) slope (very limited) too acid (limited)	1.00  1.00  0.84	Very limited percs slowly (very limited) slope (very limited) depth to bedrock (very limited)	1.00  1.00  1.00

Table 16.--Waste Management--Continued

Map symbol and soil name	Land application of manure and food-processing waste		Land application of municipal sewage sludge		Disposal of wastewater by irrigation		Treatment of wastewater by slow rate process		Treatment of wastewater by rapid infiltration process	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73017: Poynor-----	Very limited slope (very limited) too acid (limited) droughty (moderately limited)	1.00  0.61  0.57	Very limited slope (very limited) too acid (limited) droughty (moderately limited)	1.00  0.61  0.57	Very limited slope (very limited) too acid (limited) droughty (moderately limited)	1.00  0.61  0.57	Very limited slope (very limited) too acid (limited) large surface stones (moderately limited)	1.00  0.61  0.31	Very limited slope (very limited) percs slowly (moderately limited) large surface stones (moderately limited)	1.00  0.38  0.31
73019: Poynor-----	Moderately limited droughty (moderately limited) too acid (slightly limited)	0.57  0.30	Moderately limited droughty (moderately limited) too acid (slightly limited)	0.57  0.30	Moderately limited droughty (moderately limited) slope (moderately limited) too acid (slightly limited)	0.57  0.31  0.30	Moderately limited slope (moderately limited) too acid (slightly limited)	0.31  0.30	Limited slope (limited) percs slowly (limited) too acid (moderately limited)	0.91  0.78  0.42
73023: Mano-----	Slightly limited too acid (slightly limited) wetness (slightly limited)	0.30  0.28	Slightly limited too acid (slightly limited) wetness (slightly limited)	0.30  0.28	Slightly limited too acid (slightly limited) wetness (slightly limited) slope (slightly limited)	0.30  0.28  0.20	Slightly limited too acid (slightly limited) wetness (slightly limited) slope (slightly limited)	0.30  0.28  0.20	Very limited percs slowly (very limited) wetness (very limited) slope (limited)	1.00  1.00  0.66
Ocie-----	Slightly limited wetness (slightly limited)	0.28	Slightly limited wetness (slightly limited)	0.28	Slightly limited wetness (slightly limited) slope (slightly limited)	0.28  0.20	Slightly limited wetness (slightly limited) depth to bedrock (slightly limited) slope (slightly limited)	0.28  0.25  0.20	Very limited percs slowly (very limited) depth to bedrock (very limited) wetness (very limited)	1.00  1.00  1.00
73024: Mano-----	Limited slope (limited) large surface stones (moderately limited) too acid (slightly limited)	0.76  0.31  0.30	Limited slope (limited) large surface stones (moderately limited) too acid (slightly limited)	0.76  0.31  0.30	Limited slope (limited) large surface stones (moderately limited) too acid (slightly limited)	0.99  0.31  0.30	Limited slope (limited) large surface stones (moderately limited) too acid (slightly limited)	0.99  0.31  0.30	Very limited percs slowly (very limited) slope (very limited) wetness (very limited)	1.00  1.00  1.00

Table 16.--Waste Management--Continued

Map symbol and soil name	Land application of manure and food-processing waste		Land application of municipal sewage sludge		Disposal of wastewater by irrigation		Treatment of wastewater by slow rate process		Treatment of wastewater by rapid infiltration process	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73024: Ocie-----	Limited slope (limited) large surface stones (moderately limited) wetness (slightly limited)	0.76  0.31  0.28	Limited slope (limited) large surface stones (moderately limited) wetness (slightly limited)	0.76  0.31  0.28	Limited slope (limited) large surface stones (moderately limited) wetness (slightly limited)	0.99  0.31  0.28	Limited slope (limited) large surface stones (moderately limited) wetness (slightly limited)	0.99  0.31  0.28	Very limited percs slowly (very limited) slope (very limited) depth to bedrock (very limited)	1.00  1.00  1.00
73069: Tick-----	Very limited slope (very limited) percs slowly (limited) too acid (moderately limited)	1.00  0.99  0.36	Very limited slope (very limited) percs slowly (limited) too acid (moderately limited)	1.00  0.99  0.36	Very limited slope (very limited) percs slowly (limited) too acid (moderately limited)	1.00  0.99  0.36	Very limited slope (very limited) percs slowly (limited) too acid (moderately limited)	1.00  0.99  0.36	Very limited percs slowly (very limited) slope (very limited) too acid (slightly limited)	1.00  1.00  0.07
73073: Scholten----	Limited slope (limited) droughty (limited) wetness (moderately limited)	0.76  0.70  0.58	Limited slope (limited) droughty (limited) wetness (moderately limited)	0.76  0.70  0.58	Limited slope (limited) droughty (limited) wetness (moderately limited)	0.99  0.70  0.58	Limited slope (limited) wetness (moderately limited) too acid (moderately limited)	0.99  0.58  0.42	Very limited slope (very limited) wetness (very limited) percs slowly (limited)	1.00  1.00  0.96
Poynor-----	Limited slope (limited) droughty (limited) too acid (moderately limited)	0.76  0.75  0.42	Limited slope (limited) droughty (limited) too acid (moderately limited)	0.76  0.75  0.42	Limited slope (limited) droughty (limited) too acid (moderately limited)	0.99  0.75  0.42	Limited slope (limited) too acid (moderately limited)	0.99  0.42	Very limited percs slowly (very limited) slope (very limited) too acid (slightly limited)	1.00  1.00  0.03
73076: Mano-----	Very limited slope (very limited) too acid (slightly limited) wetness (slightly limited)	1.00  0.30  0.28	Very limited slope (very limited) too acid (slightly limited) wetness (slightly limited)	1.00  0.30  0.28	Very limited slope (very limited) too acid (slightly limited) wetness (slightly limited)	1.00  0.30  0.28	Very limited slope (very limited) too acid (slightly limited) wetness (slightly limited)	1.00  0.30  0.28	Very limited percs slowly (very limited) slope (very limited) wetness (very limited)	1.00  1.00  1.00

Table 16.--Waste Management--Continued

Map symbol and soil name	Land application of manure and food-processing waste		Land application of municipal sewage sludge		Disposal of wastewater by irrigation		Treatment of wastewater by slow rate process		Treatment of wastewater by rapid infiltration process	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73076: Ocie-----	Very limited slope (very limited) wetness (slightly limited)	1.00  0.28	Very limited slope (very limited) wetness (slightly limited)	1.00  0.28	Very limited slope (very limited) wetness (slightly limited)	1.00  0.28	Very limited slope (very limited) wetness (slightly limited) depth to bedrock (slightly limited)	1.00  0.28 0.25	Very limited percs slowly (very limited) slope (very limited) depth to bedrock (very limited)	1.00  1.00 1.00
73198: Gressy-----	Not limited		Not limited		Slightly limited slope (slightly limited)	0.10	Slightly limited slope (slightly limited)	0.10	Very limited percs slowly (very limited) slope (moderately limited)	1.00  0.31
Viraton-----	Moderately limited wetness (moderately limited) too acid (moderately limited)	0.44  0.42	Moderately limited wetness (moderately limited) too acid (moderately limited)	0.44  0.42	Moderately limited wetness (moderately limited) too acid (moderately limited) slope (slightly limited)	0.44  0.42 0.10	Moderately limited wetness (moderately limited) too acid (moderately limited) slope (slightly limited)	0.44  0.42 0.10	Very limited percs slowly (very limited) wetness (very limited) too acid (moderately limited)	1.00  1.00 0.31
73199: Moko-----	Very limited shallow to bedrock (very limited) droughty (very limited) large stones >35% (very limited)	1.00  1.00 0.99	Very limited droughty (very limited) shallow to bedrock (very limited) large stones >35% (very limited)	1.00  1.00 0.99	Very limited droughty (very limited) shallow to bedrock (very limited) large stones >35% (very limited)	1.00  1.00 0.99	Very limited depth to bedrock (very limited) large stones >35% (very limited) slope (limited)	1.00  0.99 0.70	Very limited percs slowly (very limited) depth to bedrock (very limited) too cobbly (very limited)	1.00  1.00 1.00
Rock outcrop--	Not rated		Not rated		Not rated		Not rated		Not rated	

Table 16.--Waste Management--Continued

Map symbol and soil name	Land application of manure and food-processing waste		Land application of municipal sewage sludge		Disposal of wastewater by irrigation		Treatment of wastewater by slow rate process		Treatment of wastewater by rapid infiltration process	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73220: Poynor-----	Limited slope (limited) droughty (moderately limited) too acid (moderately limited)	0.76 0.57 0.42	Limited slope (limited) droughty (moderately limited) too acid (moderately limited)	0.76 0.57 0.42	Limited slope (limited) droughty (moderately limited) too acid (moderately limited)	0.99 0.57 0.42	Limited slope (limited) too acid (moderately limited)	0.99 0.42	Very limited percs slowly (very limited) slope (very limited) too acid (slightly limited)	1.00 1.00 0.03
73221: Poynor-----	Limited slope (limited) too acid (limited) droughty (moderately limited)	0.99 0.61 0.57	Limited slope (limited) too acid (limited) droughty (moderately limited)	0.99 0.61 0.57	Very limited slope (very limited) too acid (limited) droughty (moderately limited)	1.00 0.61 0.57	Very limited slope (very limited) too acid (limited) large surface stones (moderately limited)	1.00 0.61 0.31	Very limited slope (very limited) percs slowly (moderately limited) large surface stones (moderately limited)	1.00 0.32 0.31
73222: Splitlimb----	Very limited ponded (wetness) (very limited) percs slowly (limited) wetness (moderately limited)	1.00 0.61 0.55	Very limited ponded (wetness) (very limited) percs slowly (limited) wetness (moderately limited)	1.00 0.61 0.55	Very limited ponded (wetness) (very limited) percs slowly (limited) wetness (moderately limited)	1.00 0.61 0.55	Very limited ponded (wetness) (very limited) percs slowly (limited) wetness (moderately limited)	1.00 0.61 0.55	Very limited percs slowly (very limited) ponded (wetness) (very limited) wetness (very limited)	1.00 1.00 1.00
73223: Coulstone----	Very limited slope (very limited) droughty (very limited) large surface stones (very limited)	1.00 1.00 1.00	Very limited slope (very limited) droughty (very limited) large surface stones (very limited)	1.00 1.00 1.00	Very limited slope (very limited) droughty (very limited) large surface stones (very limited)	1.00 1.00 1.00	Very limited slope (very limited) large surface stones (very limited) poor filter (very limited)	1.00 1.00 1.00	Very limited slope (very limited) large surface stones (very limited) percs slowly (moderately limited)	1.00 1.00 0.32
Bender-----	Very limited droughty (very limited) slope (very limited) poor filter (very limited)	1.00 1.00 1.00	Very limited droughty (very limited) slope (very limited) poor filter (very limited)	1.00 1.00 1.00	Very limited slope (very limited) droughty (very limited) poor filter (very limited)	1.00 1.00 1.00	Very limited depth to bedrock (very limited) slope (very limited) poor filter (very limited)	1.00 1.00 1.00	Very limited slope (very limited) depth to bedrock (very limited) too cobbly (very limited)	1.00 1.00 1.00



Table 16.--Waste Management--Continued

Map symbol and soil name	Land application of manure and food-processing waste		Land application of municipal sewage sludge		Disposal of wastewater by irrigation		Treatment of wastewater by slow rate process		Treatment of wastewater by rapid infiltration process	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73224: Moko-----	Very limited shallow to bedrock (very limited) droughty (very limited) slope (very limited)	1.00 1.00 1.00 1.00	Very limited droughty (very limited) shallow to bedrock (very limited) slope (very limited)	1.00 1.00 1.00 1.00	Very limited droughty (very limited) slope (very limited) shallow to bedrock (very limited)	1.00 1.00 1.00 1.00	Very limited depth to bedrock (very limited) slope (very limited) large surface stones (moderately limited)	1.00 1.00 1.00 0.37	Very limited percs slowly (very limited) slope (very limited) depth to bedrock (very limited)	1.00 1.00 1.00 1.00
Rock outcrop--	Not rated		Not rated		Not rated		Not rated		Not rated	
73225: Ocie-----	Slightly limited wetness (slightly limited)	0.28	Slightly limited wetness (slightly limited)	0.28	Moderately limited slope (moderately limited) wetness (slightly limited)	0.31 0.28	Moderately limited slope (moderately limited) wetness (slightly limited) depth to bedrock (slightly limited)	0.31 0.28 0.25	Very limited percs slowly (very limited) depth to bedrock (very limited) wetness (very limited)	1.00 1.00 1.00
Gatewood-----	Moderately limited depth to bedrock (moderately limited) wetness (moderately limited) droughty (moderately limited)	0.46 0.36 0.31	Moderately limited depth to bedrock (moderately limited) wetness (moderately limited) droughty (moderately limited)	0.46 0.36 0.31	Moderately limited depth to bedrock (moderately limited) wetness (moderately limited) droughty (moderately limited)	0.46 0.36 0.31	Very limited depth to bedrock (very limited) wetness (moderately limited) slope (moderately limited)	1.00 0.36 0.31	Very limited percs slowly (very limited) depth to bedrock (very limited) wetness (very limited)	1.00 1.00 1.00
73226: Ocie-----	Moderately limited slope (moderately limited) wetness (slightly limited)	0.45 0.28	Moderately limited slope (moderately limited) wetness (slightly limited)	0.45 0.28	Limited slope (limited) wetness (slightly limited)	0.70 0.28	Limited slope (limited) wetness (slightly limited) depth to bedrock (slightly limited)	0.70 0.28 0.25	Very limited percs slowly (very limited) depth to bedrock (very limited) wetness (very limited)	1.00 1.00 1.00

Table 16.--Waste Management--Continued

Map symbol and soil name	Land application of manure and food-processing waste		Land application of municipal sewage sludge		Disposal of wastewater by irrigation		Treatment of wastewater by slow rate process		Treatment of wastewater by rapid infiltration process	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73226: Gatewood-----	Moderately limited depth to bedrock (moderately limited)	0.46	Moderately limited depth to bedrock (moderately limited)	0.46	Limited slope (limited)	0.70	Very limited depth to bedrock (very limited)	1.00	Very limited percs slowly (very limited)	1.00
	slope (moderately limited)	0.45	slope (moderately limited)	0.45	depth to bedrock (moderately limited)	0.46	slope (limited)	0.70	depth to bedrock (very limited)	1.00
	wetness (moderately limited)	0.36	wetness (moderately limited)	0.36	wetness (moderately limited)	0.36	wetness (moderately limited)	0.36	wetness (very limited)	1.00
73227: Ocie-----	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited percs slowly (very limited)	1.00
	wetness (slightly limited)	0.28	wetness (slightly limited)	0.28	wetness (slightly limited)	0.28	wetness (slightly limited)	0.28	slope (very limited)	1.00
	too acid (slightly limited)	0.06	too acid (slightly limited)	0.06	too acid (slightly limited)	0.06	depth to bedrock (slightly limited)	0.25	depth to bedrock (very limited)	1.00
Gatewood-----	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited depth to bedrock (very limited)	1.00	Very limited percs slowly (very limited)	1.00
	wetness (moderately limited)	0.36	wetness (moderately limited)	0.36	wetness (moderately limited)	0.36	slope (very limited)	1.00	slope (very limited)	1.00
	depth to bedrock (slightly limited)	0.13	depth to bedrock (slightly limited)	0.13	depth to bedrock (slightly limited)	0.13	wetness (moderately limited)	0.36	depth to bedrock (very limited)	1.00
73228: Gatewood-----	Moderately limited depth to bedrock (moderately limited)	0.46	Moderately limited depth to bedrock (moderately limited)	0.46	Limited slope (limited)	0.70	Very limited depth to bedrock (very limited)	1.00	Very limited percs slowly (very limited)	1.00
	slope (moderately limited)	0.45	slope (moderately limited)	0.45	depth to bedrock (moderately limited)	0.46	slope (limited)	0.70	depth to bedrock (very limited)	1.00
	large surface stones (moderately limited)	0.37	large surface stones (moderately limited)	0.37	large surface stones (moderately limited)	0.37	large surface stones (moderately limited)	0.37	wetness (very limited)	1.00
Moko-----	Very limited shallow to bedrock (very limited)	1.00	Very limited droughty (very limited)	1.00	Very limited droughty (very limited)	1.00	Very limited depth to bedrock (very limited)	1.00	Very limited percs slowly (very limited)	1.00
	droughty (very limited)	1.00	shallow to bedrock (very limited)	1.00	shallow to bedrock (very limited)	1.00	slope (limited)	0.70	depth to bedrock (very limited)	1.00
	slope (moderately limited)	0.45	slope (moderately limited)	0.45	slope (limited)	0.70	large surface stones (moderately limited)	0.37	too cobbly (very limited)	1.00

Table 16.--Waste Management--Continued

Map symbol and soil name	Land application of manure and food-processing waste		Land application of municipal sewage sludge		Disposal of wastewater by irrigation		Treatment of wastewater by slow rate process		Treatment of wastewater by rapid infiltration process	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73229:										
Gatewood-----	Very limited slope (very limited) depth to bedrock (moderately limited) large surface stones (moderately limited)	1.00  0.46  0.37	Very limited slope (very limited) depth to bedrock (moderately limited) large surface stones (moderately limited)	1.00  0.46  0.37	Very limited slope (very limited) depth to bedrock (moderately limited) large surface stones (moderately limited)	1.00  0.46  0.37	Very limited depth to bedrock (very limited) slope (very limited) large surface stones (moderately limited)	1.00  1.00  0.37	Very limited percs slowly (very limited) slope (very limited) depth to bedrock (very limited)	1.00  1.00  1.00
Moko-----	Very limited shallow to bedrock (very limited) droughty (very limited) slope (very limited)	1.00  1.00  1.00	Very limited droughty (very limited) shallow to bedrock (very limited) slope (very limited)	1.00  1.00  1.00	Very limited droughty (very limited) slope (very limited) shallow to bedrock (very limited)	1.00  1.00  1.00	Very limited depth to bedrock (very limited) slope (very limited) large surface stones (moderately limited)	1.00  1.00  0.37	Very limited percs slowly (very limited) slope (very limited) depth to bedrock (very limited)	1.00  1.00  1.00
73230:										
Coulstone-----	Very limited slope (very limited) droughty (very limited) large surface stones (very limited)	1.00  1.00  1.00	Very limited slope (very limited) droughty (very limited) large surface stones (very limited)	1.00  1.00  1.00	Very limited slope (very limited) droughty (very limited) large surface stones (very limited)	1.00  1.00  1.00	Very limited slope (very limited) large surface stones (very limited) poor filter (very limited)	1.00  1.00  1.00	Very limited slope (very limited) too stony (very limited) large surface stones (very limited)	1.00  1.00  1.00
Bender-----	Very limited droughty (very limited) slope (very limited) poor filter (very limited)	1.00  1.00  1.00	Very limited droughty (very limited) slope (very limited) poor filter (very limited)	1.00  1.00  1.00	Very limited slope (very limited) droughty (very limited) poor filter (very limited)	1.00  1.00  1.00	Very limited depth to bedrock (very limited) slope (very limited) poor filter (very limited)	1.00  1.00  1.00	Very limited slope (very limited) depth to bedrock (very limited) too cobbly (very limited)	1.00  1.00  1.00
Gatewood-----	Very limited slope (very limited) depth to bedrock (moderately limited) wetness (moderately limited)	1.00  0.46  0.36	Very limited slope (very limited) depth to bedrock (moderately limited) wetness (moderately limited)	1.00  0.46  0.36	Very limited slope (very limited) depth to bedrock (moderately limited) wetness (moderately limited)	1.00  0.46  0.36	Very limited depth to bedrock (very limited) slope (very limited) wetness (moderately limited)	1.00  1.00  0.36	Very limited percs slowly (very limited) slope (very limited) depth to bedrock (very limited)	1.00  1.00  1.00

Table 16.--Waste Management--Continued

Map symbol and soil name	Land application of manure and food-processing waste		Land application of municipal sewage sludge		Disposal of wastewater by irrigation		Treatment of wastewater by slow rate process		Treatment of wastewater by rapid infiltration process	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73231: Wasola-----	Limited percs slowly (limited) wetness (moderately limited)	0.99  0.44	Limited percs slowly (limited) wetness (moderately limited)	0.99  0.44	Limited percs slowly (limited) wetness (moderately limited) slope (slightly limited)	0.99  0.44  0.10	Limited percs slowly (limited) wetness (moderately limited) slope (slightly limited)	0.99  0.44  0.10	Very limited percs slowly (very limited) wetness (very limited) slope (moderately limited)	1.00  1.00  0.31
73232: Alred-----	Slightly limited too acid (slightly limited)	0.30	Slightly limited too acid (slightly limited)	0.30	Slightly limited too acid (slightly limited) slope (slightly limited)	0.30  0.20	Slightly limited too acid (slightly limited) slope (slightly limited)	0.30  0.20	Very limited percs slowly (very limited) slope (limited)	1.00  0.66
Ocie-----	Slightly limited wetness (slightly limited)	0.28	Slightly limited wetness (slightly limited)	0.28	Slightly limited wetness (slightly limited) slope (slightly limited)	0.28  0.20	Slightly limited wetness (slightly limited) depth to bedrock (slightly limited) slope (slightly limited)	0.28  0.25  0.20	Very limited percs slowly (very limited) depth to bedrock (very limited) wetness (very limited)	1.00  1.00  1.00
73233: Alred-----	Limited slope (limited) too acid (slightly limited)	0.76  0.30	Limited slope (limited) too acid (slightly limited)	0.76  0.30	Limited slope (limited) too acid (slightly limited)	0.99  0.30	Limited slope (limited) too acid (slightly limited)	0.99  0.30	Very limited percs slowly (very limited) slope (very limited)	1.00  1.00
Ocie-----	Limited slope (limited) wetness (slightly limited)	0.76  0.28	Limited slope (limited) wetness (slightly limited)	0.76  0.28	Limited slope (limited) wetness (slightly limited)	0.99  0.28	Limited slope (limited) wetness (slightly limited) depth to bedrock (slightly limited)	0.99  0.28  0.25	Very limited percs slowly (very limited) slope (very limited) depth to bedrock (very limited)	1.00  1.00  1.00

Table 16.--Waste Management--Continued

Map symbol and soil name	Land application of manure and food-processing waste		Land application of municipal sewage sludge		Disposal of wastewater by irrigation		Treatment of wastewater by slow rate process		Treatment of wastewater by rapid infiltration process	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73234:										
Alred-----	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited percs slowly (very limited)	1.00
	large stones >35% (very limited)	0.99	large stones >35% (very limited)	0.99	large stones >35% (very limited)	0.99	large stones >35% (very limited)	0.99	slope (very limited)	1.00
	too acid (slightly limited)	0.12	too acid (slightly limited)	0.12	too acid (slightly limited)	0.12	too acid (slightly limited)	0.12		
Gatewood-----	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited depth to bedrock (very limited)	1.00	Very limited percs slowly (very limited)	1.00
	wetness (moderately limited)	0.36	wetness (moderately limited)	0.36	wetness (moderately limited)	0.36	slope (very limited)	1.00	slope (very limited)	1.00
	depth to bedrock (slightly limited)	0.13	depth to bedrock (slightly limited)	0.13	depth to bedrock (slightly limited)	0.13	wetness (moderately limited)	0.36	depth to bedrock (very limited)	1.00
73235:										
Alred-----	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited percs slowly (very limited)	1.00
	too acid (slightly limited)	0.12	too acid (slightly limited)	0.12	too acid (slightly limited)	0.12	too acid (slightly limited)	0.12	slope (very limited)	1.00
	droughty (slightly limited)	0.02	droughty (slightly limited)	0.02	droughty (slightly limited)	0.02				
73236:										
Scholten-----	Limited droughty (limited)	0.70	Limited droughty (limited)	0.70	Limited droughty (limited)	0.70	Moderately limited wetness (moderately limited)	0.58	Very limited wetness (very limited)	1.00
	wetness (moderately limited)	0.58	wetness (moderately limited)	0.58	wetness (moderately limited)	0.58	too acid (moderately limited)	0.42	percs slowly (limited)	0.96
	too acid (moderately limited)	0.42	too acid (moderately limited)	0.42	too acid (moderately limited)	0.42	slope (moderately limited)	0.31	slope (limited)	0.91
Poynor-----	Moderately limited too acid (moderately limited)	0.42	Moderately limited too acid (moderately limited)	0.42	Moderately limited too acid (moderately limited)	0.42	Moderately limited too acid (moderately limited)	0.42	Limited percs slowly (limited)	0.73
					slope (slightly limited)	0.20	slope (slightly limited)	0.20	slope (limited)	0.66
									too acid (slightly limited)	0.03

Table 16.--Waste Management--Continued

Map symbol and soil name	Land application of manure and food-processing waste		Land application of municipal sewage sludge		Disposal of wastewater by irrigation		Treatment of wastewater by slow rate process		Treatment of wastewater by rapid infiltration process	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73237: Clarksville---	Limited too acid (limited) large surface stones (limited) slope (moderately limited)	0.84  0.79  0.45	Limited too acid (limited) large surface stones (limited) slope (moderately limited)	0.84  0.79  0.45	Limited too acid (limited) large surface stones (limited) slope (limited)	0.84  0.79  0.70	Limited too acid (limited) large surface stones (limited) slope (limited)	0.84  0.79  0.70	Very limited slope (very limited) too cobbly (limited) large surface stones (limited)	1.00  0.95  0.79
73239: Rueter-----	Very limited slope (very limited) too acid (limited) large surface stones (limited)	1.00  0.84  0.79	Very limited slope (very limited) too acid (limited) large surface stones (limited)	1.00  0.84  0.79	Very limited slope (very limited) too acid (limited) large surface stones (limited)	1.00  0.84  0.79	Very limited slope (very limited) too acid (limited) large surface stones (limited)	1.00  0.84  0.79	Very limited slope (very limited) too cobbly (limited) large surface stones (limited)	1.00  0.95  0.79
Rock outcrop--	Not rated		Not rated		Not rated		Not rated		Not rated	
73240: Jerktail-----	Limited percs slowly (limited) wetness (moderately limited)	0.61  0.44	Limited percs slowly (limited) wetness (moderately limited)	0.61  0.44	Limited percs slowly (limited) wetness (moderately limited) slope (slightly limited)	0.61  0.44  0.20	Limited percs slowly (limited) wetness (moderately limited) slope (slightly limited)	0.61  0.44  0.20	Very limited percs slowly (very limited) depth to bedrock (very limited) wetness (very limited)	1.00  1.00  1.00
73242: Fanchon-----	Slightly limited too acid (slightly limited)	0.24	Slightly limited too acid (slightly limited)	0.24	Slightly limited too acid (slightly limited) slope (slightly limited)	0.24  0.10	Slightly limited too acid (slightly limited) slope (slightly limited)	0.24  0.10	Very limited percs slowly (very limited) slope (moderately limited)	1.00  0.31

Table 16.--Waste Management--Continued

Map symbol and soil name	Land application of manure and food-processing waste		Land application of municipal sewage sludge		Disposal of wastewater by irrigation		Treatment of wastewater by slow rate process		Treatment of wastewater by rapid infiltration process	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73242: Tonti-----	Moderately limited wetness (moderately limited) too acid (slightly limited)	0.56  0.12	Moderately limited wetness (moderately limited) too acid (slightly limited)	0.56  0.12	Moderately limited wetness (moderately limited) too acid (slightly limited) slope (slightly limited)	0.56  0.12  0.10	Moderately limited wetness (moderately limited) too acid (slightly limited) slope (slightly limited)	0.56  0.12  0.10	Very limited wetness (very limited) slope (moderately limited) percs slowly (slightly limited)	1.00  0.31  0.22
73243: Topazmill----	Not limited		Not limited		Slightly limited slope (slightly limited)	0.10	Slightly limited slope (slightly limited)	0.10	Very limited percs slowly (very limited) slope (moderately limited)	1.00  0.31
73245: Alred-----	Slightly limited too acid (slightly limited)	0.30	Slightly limited too acid (slightly limited)	0.30	Slightly limited too acid (slightly limited) slope (slightly limited)	0.30  0.20	Slightly limited too acid (slightly limited) slope (slightly limited)	0.30  0.20	Very limited percs slowly (very limited) slope (limited)	1.00  0.66
73246: Alred-----	Limited slope (limited) too acid (slightly limited)	0.76  0.30	Limited slope (limited) too acid (slightly limited)	0.76  0.30	Limited slope (limited) too acid (slightly limited)	0.99  0.30	Limited slope (limited) too acid (slightly limited)	0.99  0.30	Very limited percs slowly (very limited) slope (very limited)	1.00  1.00
73247: Alred-----	Very limited slope (very limited) too acid (slightly limited) droughty (slightly limited)	1.00  0.12  0.02	Very limited slope (very limited) too acid (slightly limited) droughty (slightly limited)	1.00  0.12  0.02	Very limited slope (very limited) too acid (slightly limited) droughty (slightly limited)	1.00  0.12  0.02	Very limited slope (very limited) too acid (slightly limited)	1.00  0.12	Very limited percs slowly (very limited) slope (very limited)	1.00  1.00



Table 16.--Waste Management--Continued

Map symbol and soil name	Land application of manure and food-processing waste		Land application of municipal sewage sludge		Disposal of wastewater by irrigation		Treatment of wastewater by slow rate process		Treatment of wastewater by rapid infiltration process	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73248:										
Alred-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	large stones >35%	0.99	large stones >35%	0.99	large stones >35%	0.99	large stones >35%	0.99	percs slowly	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	slope	0.76	slope	0.76	slope	0.99	slope	0.99	slope	1.00
	(limited)		(limited)		(limited)		(limited)		(very limited)	
	large surface stones	0.13	large surface stones	0.13	large surface stones	0.13	large surface stones	0.13	large surface stones	0.13
	(slightly limited)		(slightly limited)		(slightly limited)		(slightly limited)		(slightly limited)	
Bendavis-----	Limited		Limited		Limited		Very limited		Very limited	
	slope	0.76	slope	0.76	slope	0.99	depth to bedrock	1.00	slope	1.00
	(limited)		(limited)		(limited)		(very limited)		(very limited)	
	depth to bedrock	0.58	depth to bedrock	0.58	depth to bedrock	0.58	slope	0.99	depth to bedrock	1.00
	(moderately limited)		(moderately limited)		(moderately limited)		(limited)		(very limited)	
	droughty	0.45	droughty	0.45	droughty	0.45	wetness	0.28	wetness	1.00
	(moderately limited)		(moderately limited)		(moderately limited)		(slightly limited)		(very limited)	
73249:										
Alred-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	slope	1.00	slope	1.00	slope	1.00	slope	1.00	percs slowly	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	large stones >35%	0.99	large stones >35%	0.99	large stones >35%	0.99	large stones >35%	0.99	slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	large surface stones	0.13	large surface stones	0.13	large surface stones	0.13	large surface stones	0.13	large surface stones	0.13
	(slightly limited)		(slightly limited)		(slightly limited)		(slightly limited)		(slightly limited)	
Ocie-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	slope	1.00	slope	1.00	slope	1.00	slope	1.00	percs slowly	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	large surface stones	0.70	large surface stones	0.70	large surface stones	0.70	large surface stones	0.70	slope	1.00
	(limited)		(limited)		(limited)		(limited)		(very limited)	
	wetness	0.28	wetness	0.28	wetness	0.28	wetness	0.28	depth to bedrock	1.00
	(slightly limited)		(slightly limited)		(slightly limited)		(slightly limited)		(very limited)	
Bendavis-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	slope	1.00	slope	1.00	slope	1.00	depth to bedrock	1.00	percs slowly	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	large surface stones	0.70	large surface stones	0.70	large surface stones	0.70	slope	1.00	slope	1.00
	(limited)		(limited)		(limited)		(very limited)		(very limited)	
	too acid	0.30	too acid	0.30	too acid	0.30	large surface stones	0.70	depth to bedrock	1.00
	(slightly limited)		(slightly limited)		(slightly limited)		(limited)		(very limited)	

Table 16.--Waste Management--Continued

Map symbol and soil name	Land application of manure and food-processing waste		Land application of municipal sewage sludge		Disposal of wastewater by irrigation		Treatment of wastewater by slow rate process		Treatment of wastewater by rapid infiltration process	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
74626: Tanglenook----	Very limited wetness (very limited) percs slowly (limited) flooding (slightly limited)	1.00  0.99  0.30	Very limited wetness (very limited) percs slowly (limited) flooding (slightly limited)	1.00  0.99  0.30	Very limited wetness (very limited) percs slowly (limited) flooding (slightly limited)	1.00  0.99  0.30	Very limited wetness (very limited) percs slowly (limited) flooding (slightly limited)	1.00  0.99  0.30	Very limited percs slowly (very limited) wetness (very limited)	1.00  1.00
74657: Pomme-----	Not limited		Not limited		Slightly limited slope (slightly limited)	0.20	Slightly limited slope (slightly limited)	0.20	Very limited percs slowly (very limited) slope (limited)	1.00  0.66
74658: Zanoni-----	Slightly limited flooding (slightly limited)	0.30	Slightly limited flooding (slightly limited)	0.30	Slightly limited flooding (slightly limited)	0.30	Slightly limited flooding (slightly limited)	0.30	Slightly limited percs slowly (slightly limited)	0.22
75382: Cedargap-----	Very limited flooding (very limited)	1.00	Very limited flooding (very limited)	1.00	Very limited flooding (very limited)	1.00	Very limited flooding (very limited)	1.00	Very limited percs slowly (very limited) flooding (very limited) wetness (limited)	1.00  1.00  0.61
75390: Razort-----	Slightly limited flooding (slightly limited)	0.30	Slightly limited flooding (slightly limited)	0.30	Slightly limited flooding (slightly limited)	0.30	Slightly limited flooding (slightly limited)	0.30	Very limited percs slowly (very limited)	1.00
75406: Racket-----	Very limited flooding (very limited)	1.00	Very limited flooding (very limited)	1.00	Very limited flooding (very limited)	1.00	Very limited flooding (very limited)	1.00	Very limited flooding (very limited) percs slowly (very limited) wetness (limited)	1.00  1.00  0.61

Table 16.--Waste Management--Continued

Map symbol and soil name	Land application of manure and food-processing waste		Land application of municipal sewage sludge		Disposal of wastewater by irrigation		Treatment of wastewater by slow rate process		Treatment of wastewater by rapid infiltration process	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
75417:										
Relfe-----	Very limited flooding (very limited)	1.00	Very limited flooding (very limited)	1.00	Very limited flooding (very limited)	1.00	Very limited flooding (very limited)	1.00	Very limited flooding (very limited)	1.00
	droughty (very limited)	1.00	droughty (very limited)	1.00	droughty (very limited)	1.00	poor filter (very limited)	1.00	percs slowly (moderately limited)	0.50
	poor filter (very limited)	1.00	poor filter (very limited)	1.00	poor filter (very limited)	1.00				
Sandbur-----	Very limited flooding (very limited)	1.00	Very limited flooding (very limited)	1.00	Very limited flooding (very limited)	1.00	Very limited flooding (very limited)	1.00	Very limited flooding (very limited)	1.00
									percs slowly (moderately limited)	0.32
75422:										
Secesh-----	Limited flooding (limited)	0.90	Limited flooding (limited)	0.90	Limited flooding (limited)	0.90	Limited flooding (limited)	0.90	Very limited percs slowly (very limited)	1.00
									flooding (moderately limited)	0.60
75423:										
Cedargap-----	Limited flooding (limited)	0.90	Limited flooding (limited)	0.90	Limited flooding (limited)	0.90	Limited flooding (limited)	0.90	Limited percs slowly (limited)	0.78
	droughty (slightly limited)	0.17	droughty (slightly limited)	0.17	droughty (slightly limited)	0.17			flooding (moderately limited)	0.60
75424:										
Sandbur-----	Very limited flooding (very limited)	1.00	Very limited flooding (very limited)	1.00	Very limited flooding (very limited)	1.00	Very limited flooding (very limited)	1.00	Very limited flooding (very limited)	1.00
									percs slowly (moderately limited)	0.32
99001:										
Water-----	Not rated		Not rated		Not rated		Not rated		Not rated	
99002:										
Borrow areas--	Not rated		Not rated		Not rated		Not rated		Not rated	

Table 17.--Engineering Index Properties

(Absence of an entry indicates that data were not estimated. For an explanation of the abbreviations in the USDA texture column, see "Texture, soil" in the Glossary)

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10						
					inches	inches	4	10	40	200		
	In				Pct	Pct					Pct	
70026: Tonti-----	0-8	SIL	CL, CL-ML, SC-SM	A-4, A-6	0	0-5	80-95	75-90	70-85	60-70	20-35	4-15
	8-20	GR-SICL, GR- SIL, SICL	CL, GC, SC	A-4, A-6	0	0-5	65-95	60-90	55-85	45-80	25-40	8-20
	20-34	GRX-SIL, GRV- SIL, GRV-SICL, GRX-SICL	GC	A-2, A-4, A-6	0-5	0-10	25-55	20-50	20-45	20-40	25-40	7-20
	34-80	GRX-SIC, GRV-C, GR-C, GRX-C	CH, CL, GC, SC	A-2, A-7	0-5	0-10	25-75	20-70	15-65	10-60	45-80	25-50
73000: Pomme-----	0-7	SIL	CL, CL-ML	A-4	0	0-5	80-100	75-100	70-95	50-90	20-30	6-10
	7-19	SICL, GR-SIL, GR-SICL, SIL	CL	A-4, A-6	0	0-10	70-95	65-90	50-85	50-75	30-40	9-15
	19-57	GRV-SICL, GR- SICL, SICL	GC, CL	A-2, A-6, A-7-6	0	0-10	50-95	45-90	35-85	30-75	30-45	15-25
	57-80	C, GR-C, GRV-CL	GC, CH, CL	A-7, A-2, A-6	0	0-15	40-95	35-90	30-85	25-80	37-60	15-30
73015: Viraton-----	0-3	SIL	CL, CL-ML	A-4, A-6	0	0	85-100	80-100	80-95	65-85	20-35	5-15
	3-7	SIL	CL	A-4, A-6	0	0	85-100	80-100	80-95	65-85	20-35	5-15
	7-23	GR-SICL, GRV- SIL	CL	A-6	0	0-15	30-80	25-75	25-75	20-70	30-40	10-20
	23-48	GRX-SIL	GC	A-2, A-2-4	0	0-20	20-30	15-25	15-25	10-20	25-35	5-15
	48-80	C, GR-C	CH	A-7, A-7-6	0	0-15	65-95	60-90	60-90	55-80	50-75	25-50
73017: Bendavis-----	0-3	GRV-SIL	GC, GC-GM, GM	A-2, A-2-4, A-4	0-5	0-5	30-55	25-50	20-45	15-40	10-20	2-8
	3-14	GR-SIL, GRV-SIL	GC, GM, ML, CL-ML	A-4	0-5	0-5	45-80	40-75	35-70	30-65	10-20	2-8
	14-34	GRV-SIL, GRV- SICL, GRX-SIL	GC, GC-GM	A-2, A-2-6, A-6	0-5	0-5	30-55	20-50	15-45	15-40	25-30	7-15
	34-80	BR	---	---	---	---	---	---	---	---	---	---

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10						
					inches	inches	4	10	40	200		
	In				Pct	Pct					Pct	
73017: Poynor-----	0-4	GRV-SIL	GC, GC-GM, GM	A-2, A-1, A-2-4, A-4	0-5	0-20	30-55	25-50	20-45	20-40	20-30	2-8
	4-10	GRV-L, GRV-SIL, GRX-SIL	GC, GC-GM, GM	A-2, A-1-b, A-2-4, A-4	0-5	0-20	30-55	20-50	20-50	15-40	20-30	2-8
	10-28	GRV-SIL, GRV- CL, GRX-SICL	GC	A-2, A-2-6, A-6	0-5	0-20	25-55	20-50	20-50	15-45	25-40	10-20
	28-80	SIC, C	CH, MH	A-7	0	0-10	95-100	90-100	85-95	70-90	50-80	25-40
73019: Poynor-----	0-4	GRV-SIL	GC, GC-GM, GM	A-2, A-1, A-2-4, A-4	0-5	0-20	30-55	25-50	20-45	20-40	20-30	2-8
	4-10	GRV-SIL, GR- SIL, GRX-SIL	GC, GC-GM, GM	A-2, A-1-b, A-2-4, A-4	0-5	0-20	25-60	20-55	20-50	15-40	20-30	2-8
	10-28	GRV-SICL, GRX- SICL, GRV-SIL, GRX-SIL	GC	A-2, A-2-6, A-6	0-5	0-20	25-55	20-50	20-50	15-45	25-40	10-20
	28-80	C, GR-C	CH, MH	A-7	0	0-10	65-100	60-100	55-95	50-90	50-70	25-35
73023: Mano-----	0-3	GR-SIL	CL, GC, GM, ML	A-4	0	0-5	55-80	50-75	45-75	40-70	15-25	3-8
	3-13	GRV-SIL, GR-SIL	CL, GC, GM, ML	A-4	0	0-5	30-80	25-75	25-75	15-70	15-25	3-8
	13-33	GRV-SIL, GRV- SICL	GC	A-2, A-6	0	0-5	30-55	25-50	25-45	15-40	20-30	5-15
	33-80	C, SIC, GR-C	CH	A-7	0	0	70-95	70-95	65-90	55-85	50-75	30-45
Ocie-----	0-5	GRV-SIL	GC, GC-GM	A-1, A-2, A-4	0	0-15	35-60	30-55	25-50	20-45	0-25	4-10
	5-11	GRV-SIL, GRV-L, GR-SIL	GC, GC-GM	A-2, A-1-b, A-2-4, A-2-6	0-5	0-20	40-80	25-75	20-60	15-55	20-30	5-15
	11-24	GRV-SICL, GRV- SIL	GC, GC-GM	A-2, A-1-b, A-2-4, A-2-6	0-5	0-20	35-55	25-50	20-45	15-35	20-30	5-15
	24-56	C, GR-C	CH	A-7	0-5	0-15	75-95	70-90	65-85	60-80	50-70	30-40
	56-80	BR	---	---	---	---	---	---	---	---	---	---
73024: Mano-----	0-3	GRV-SIL	GC-GM, GC, GM	A-1, A-2, A-4	0	0-5	30-55	25-50	25-45	15-40	15-25	3-8
	3-13	GRV-SIL, GR-SIL	CL, GC, GM, ML	A-4	0	0-5	30-80	25-75	25-75	15-70	15-25	3-8
	13-33	GRV-SIL, GRV- SICL	GC	A-2, A-6	0	0-5	30-55	25-50	25-45	15-40	20-30	5-15
	33-80	C, GR-C	CH	A-7	0	0	70-95	70-95	65-90	55-85	50-75	30-45

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10						
					inches	inches	4	10	40	200		
	In				Pct	Pct					Pct	
73024:												
Ocie-----	0-5	GRV-SIL	GC, GC-GM	A-1, A-2, A-4	0	0-15	35-60	30-55	25-50	20-45	0-25	4-10
	5-11	GRV-SIL	GC, GC-GM	A-2, A-1-b, A-2-4, A-2-6	0-5	0-20	40-60	25-55	20-45	15-35	20-30	5-15
	11-24	GRV-SIL, GRX- SIL, GRV-SICL	GC, GC-GM	A-2, A-1-b, A-2-4, A-2-6	0-5	0-20	25-55	20-50	20-45	15-35	20-30	5-15
	24-56	GR-C, C	CH	A-7	0-5	0-15	75-95	70-90	65-85	60-80	50-70	30-40
	56-80	BR	---	---	---	---	---	---	---	---	---	---
73069:												
Tick-----	0-5	GRX-SIL	GC-GM, GM	A-1-a, A-2-4	0-2	0-15	25-40	15-30	10-30	10-25	14-23	2-7
	5-10	GRV-SIL, GR- SIL, SIL, GR-L	GC, GC-GM, GM	A-1-b, A-2-4, A-4	0-15	0-15	50-100	35-100	30-95	25-85	15-30	2-11
	10-18	SICL, GR-SICL, CL, GR-L	CL	A-7-6, A-6	0-15	0-10	60-100	55-100	45-100	35-90	20-42	5-18
	18-42	C, SIC, GR-C	CH, CL	A-7	0-15	0-10	55-100	50-100	50-95	45-90	41-74	20-45
	42-80	C, GR-C, GR- SIC, SIC	CH, CL	A-7	0-15	0-15	60-100	55-100	55-100	50-95	43-77	18-36
73073:												
Scholten-----	0-7	GRV-SIL	GM, GC-GM, GC	A-2, A-4	0-3	0-15	35-55	25-50	25-45	20-40	15-25	NP-10
	7-21	GRV-SIL, CBV- SIL, GRV-SICL	GC-GM, GC, GM	A-2	0-4	0-30	30-55	25-50	20-45	15-40	15-25	NP-10
	21-34	GRX-SIL, GRV- SIL, GRX-SICL	GC-GM, GC	A-2, A-4, A-6	0-3	0-30	20-60	20-55	20-50	20-40	20-40	5-20
	34-80	GR-C, GRV-C, GRV-CL, CBX-C	CH, CL, GC	A-2, A-7	0-10	0-35	30-65	25-60	20-60	15-55	40-70	20-40
Poynor-----	0-4	GRV-SIL	GC, GC-GM, GM	A-1, A-2-4, A-4	0-3	0-25	30-60	25-50	25-45	20-40	20-30	NP-10
	4-10	GRV-SIL, GRX- SIL	GC, GC-GM, GM	A-1-b, A-2-4, A-4	0-3	0-15	25-55	20-50	20-45	15-40	20-30	NP-10
	10-28	GRV-SICL, GRV- SIL, GRX-SIL	GC	A-2-6, A-6	0-5	0-30	25-55	20-50	20-45	15-45	25-40	10-20
	28-80	C, CB-C	CH, MH	A-7	0-5	0-30	80-100	70-100	65-95	60-95	50-70	25-35
73076:												
Mano-----	0-3	GRV-SIL	GC-GM, GC, GM	A-1, A-2, A-4	0	0-5	30-60	25-50	25-45	15-40	16-25	3-8
	3-13	GRV-SIL	GC-GM, GC, GM	A-2	0	0-5	30-60	25-50	25-45	15-40	16-25	3-8
	13-33	GRV-SIL, GRV- SICL	GC	A-2, A-6	0	0-5	25-55	25-50	25-50	25-45	20-30	5-15
	33-80	C, GR-C	CH	A-7	0	0	70-100	70-95	65-90	55-85	50-75	30-45

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10						
					inches	inches	4	10	40	200		
	In				Pct	Pct					Pct	
73076: Ocie-----	0-5	GRV-SIL	GC, GC-GM	A-1, A-2, A-4	0	0-15	30-60	25-50	25-45	20-40	0-25	4-10
	5-11	GRV-SIL	GC, GC-GM	A-1-b, A-2-4, A-2-6, A-2	0-5	0-20	30-55	25-50	20-45	15-35	20-30	5-15
	11-24	GRV-SIL, GRX- SIL, GRV-SICL	GC, GC-GM	A-1-b, A-2-4, A-2-6, A-2	0-5	0-20	25-55	20-50	20-45	15-35	20-30	5-15
	24-56	GR-C, C	CH	A-7	0-5	0-15	75-95	70-90	65-85	60-80	50-70	30-40
	56-80	BR	---	---	---	---	---	---	---	---	---	---
73198: Gressy-----	0-7	SIL	CL, CL-ML	A-4	0	0	80-100	75-100	70-95	55-85	15-25	3-8
	7-31	SIL, GR-SIL, SICL, GR-L	CL	A-4, A-6	0	0	65-100	50-90	45-85	30-75	20-34	5-13
	31-49	GR-CL, GRV-CL, CL	GC	A-2, A-6, A-7-6	0	0-35	60-100	40-90	30-85	25-75	28-50	9-27
	49-80	GR-C, GRV-C, C	GC	A-7-6, A-7-5	0-10	0-30	55-100	45-100	45-95	40-90	43-83	22-49
Viraton-----	0-3	SIL	CL, CL-ML	A-4, A-6	0	0	85-100	80-100	80-95	65-85	20-35	5-15
	3-7	SIL	CL	A-4, A-6	0	0	85-100	80-100	80-95	65-85	20-35	5-15
	7-23	GR-SICL, GRV- SIL	CL	A-6	0	0-15	30-80	25-75	25-75	20-70	30-40	10-20
	23-48	GRX-SIL	GC	A-2, A-2-4	0	0-20	20-30	15-25	15-25	10-20	25-35	5-15
	48-80	C, GR-C	CH	A-7, A-7-6	0	0-15	65-95	60-90	60-90	55-80	50-75	25-50
73199: Moko-----	0-7	FLX-L	GC	A-2	0-10	35-60	15-50	10-40	10-35	5-30	25-45	10-20
	7-12	CNX-SICL, CNV- CL, FLX-SIL, CNV-SIL	GW-GC, GC	A-2	0-10	30-65	15-40	10-35	10-30	5-20	25-45	10-20
	12-80	BR	---	---	---	---	---	---	---	---	---	---
Rock outcrop.												
73220: Poynor-----	0-4	GRX-SIL	GC, GC-GM, GM	A-1-a, A-2-4	0-3	0-10	25-40	15-30	10-25	10-20	20-30	2-8
	4-10	GRV-SIL, GRX- SIL	GC, GC-GM, GM	A-1-b, A-2-4, A-1-a	0-3	0-15	25-60	15-50	15-45	10-40	20-30	2-8
	10-28	GRV-SICL, GRX- SIL	GC	A-2-6, A-2-4	0-5	0-25	25-60	15-55	15-50	10-45	25-40	10-20
	28-80	C, CB-C	CH, MH	A-7	0-5	0-30	80-100	75-100	70-95	65-85	51-70	25-35



Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10						
					inches	inches	4	10	40	200		
	In				Pct	Pct					Pct	
73221: Poynor-----	0-4	GRV-SIL	GC, GC-GM, GM	A-1, A-2-4, A-4	0-5	0-20	30-55	25-50	20-45	20-40	20-30	2-8
	4-10	GRV-L, GRV-SIL	GC-GM, GM, GC	A-1-b, A-2-4, A-4	0-5	0-20	30-55	25-50	20-50	15-40	20-30	2-8
	10-28	GRV-SIL, GRV-CL	GC	A-2-6, A-6	0-5	0-20	30-55	25-50	20-50	15-45	25-40	10-20
	28-80	C, GR-C, SIC	CH, MH	A-7	0	0-10	70-100	60-100	55-95	50-90	51-80	25-40
73222: Splitlimb-----	0-10	SIL	ML, CL-ML	A-4	0	0	95-100	95-100	90-100	75-90	16-23	3-7
	10-20	SIL, SICL	CL	A-6	0	0	95-100	95-100	90-100	75-95	20-35	5-14
	20-29	SIL, SICL	CL	A-6, A-7-6	0	0	95-100	90-100	85-100	70-95	25-44	8-22
	29-80	SICL, SIL	CL	A-6, A-7-6	0	0	90-100	85-100	80-100	65-95	30-45	11-23
73223: Coulstone-----	0-1	FSL MPM	---	---	---	---	---	---	---	---	---	---
	1-6	GRV-FSL	GC-GM, GM	A-1, A-2-4	0-10	0-15	30-55	25-50	15-40	10-25	10-20	NP-10
	6-29	FSL, GR-SL, CBV-L, GRV-L	GC, GC-GM, GM	A-1, A-2-4	0-25	0-40	35-90	30-85	15-55	5-35	10-30	NP-10
	29-42	CBV-L, GRV-L, GRV-SCL, CBV- CL	GC, GC-GM, GM	A-2-6, A-6, A-2-4	0-25	0-45	30-60	25-55	15-50	10-40	20-50	5-20
	42-80	GRV-CL, GRV-C, CBV-SC, GRV- SCL	GC, GC-GM, GM	A-2-6, A-6, A-2-4	0-20	0-35	30-60	25-55	20-50	15-40	25-50	7-20
Bender-----	0-1	SL MPM	---	---	---	---	---	---	---	---	---	---
	1-5	CBX-SL	GC-GM, GM	A-1, A-1-a	0-20	30-55	20-50	15-40	10-25	5-15	5-10	NP-5
	5-21	CBX-SL, CBX- FSL, GRV-L	SM	A-2	0-30	0-55	25-60	20-50	10-40	5-30	5-20	NP-5
	21-31	CBX-SL, GRV- FSL, GRX-COSL, GRX-L	GC, GC-GM, GM	A-2	0-20	0-60	20-55	15-50	10-40	5-20	5-35	NP-10
	31-80	BR	---	---	---	---	---	---	---	---	---	---
73224: Moko-----	0-7	FLX-L	GC	A-2	0-5	5-40	40-60	35-55	30-50	25-35	25-45	10-20
	7-12	CNX-SICL, CNV- CL, FLX-SIL, CNV-SIL	CL, GC, SC	A-6, A-7	0-10	40-80	65-90	60-85	55-80	40-80	25-45	10-20
	12-80	BR	---	---	---	---	---	---	---	---	---	---
Rock outcrop.												

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10						
					inches	inches	4	10	40	200		
	In				Pct	Pct					Pct	
73225: Ocie-----	0-5	GRV-SIL	CL, CL-ML, SC, SC-SM, GC-GM	A-1, A-2, A-4	0	0-15	45-80	40-75	30-65	20-60	0-25	4-10
	5-11	GRV-SIL	GC, GC-GM	A-1-b, A-2-4, A-2-6, A-2	0-5	0-20	40-60	20-55	20-45	15-35	20-30	5-15
	11-24	GRV-SIL, GRX- SIL, GRV-SICL	GC, GC-GM	A-1-b, A-2-4, A-2-6, A-2	0-5	0-20	40-55	20-50	20-45	15-35	20-30	5-15
	24-56	GR-C, C	CH	A-7	0-5	0-15	75-95	70-90	65-85	60-80	50-70	30-40
	56-80	BR	---	---	---	---	---	---	---	---	---	---
Gatewood-----	0-2	GRV-SIL	GC-GM, GC, SC	A-2, A-4, A-6	0	0-15	55-80	35-55	30-50	30-45	25-35	7-15
	2-5	GRV-SIL, GR-SIL	CL, GC, SC	A-2, A-4, A-6	0	0-15	40-90	35-85	30-75	30-70	25-35	7-15
	5-36	C, GR-C	CH	A-7	0-5	0-10	80-95	60-90	55-90	50-85	55-75	30-45
	36-80	BR	---	---	---	---	---	---	---	---	---	---
73226: Ocie-----	0-5	GRV-SIL	GC, CL-ML, GC-GM	A-1, A-2, A-4	0	0-15	40-60	30-55	25-55	20-50	0-25	4-10
	5-11	GRV-SIL	GC, GC-GM	A-1-b, A-2-4, A-2-6, A-2	0-5	0-20	40-60	20-55	20-45	15-35	20-30	5-15
	11-24	GRV-SIL, GRX- SIL, GRV-SICL	GC, GC-GM	A-1-b, A-2-4, A-2-6, A-2	0-5	0-20	40-55	20-50	20-45	15-35	20-30	5-15
	24-56	GR-C, C	CH	A-7	0-5	0-15	75-95	70-90	65-85	60-80	50-70	30-40
	56-80	BR	---	---	---	---	---	---	---	---	---	---
Gatewood-----	0-2	GRV-SIL	GC-GM, GC, SC	A-2, A-4, A-6	0	0-15	55-80	35-55	30-50	30-45	25-35	7-15
	2-5	GRV-SIL, GR-SIL	CL, GC, SC	A-2, A-4, A-6	0	0-15	40-90	35-85	30-75	30-70	25-35	7-15
	5-36	C, GR-C	CH	A-7	0-5	0-10	80-95	60-90	55-90	50-85	55-75	30-45
	36-80	BR	---	---	---	---	---	---	---	---	---	---
73227: Ocie-----	0-5	GR-SIL, GRV-SIL	CL, GC, SC	A-4, A-6	0	0-15	45-80	35-75	30-70	25-65	25-35	7-15
	5-11	GR-SIL, GRV-SIL	SC, CL, GC	A-2, A-4, A-6	0	0-15	40-90	35-85	30-75	30-70	25-35	7-15
	11-24	GRV-SIL, GRX- SIL, GRV-SICL	GC, GC-GM	A-2, A-1-b, A-2-4, A-2-6	0-5	0-20	40-55	20-50	20-45	15-35	20-30	5-15
	24-56	GR-C, C	CH	A-7	0-5	0-10	80-95	60-90	55-90	50-85	55-75	30-45
	56-80	BR	---	---	---	---	---	---	---	---	---	---
Gatewood-----	0-2	GRV-SIL	GC, GW-GC, SC	A-2, A-4, A-6	0-5	10-30	30-60	20-50	15-45	10-40	25-35	7-15
	2-5	GRV-SIL	GC	A-2-6	0	0-35	35-60	25-50	20-45	15-40	20-40	10-20
	5-36	C, GR-C	CH	A-7	0-5	0-10	80-95	60-90	55-90	50-85	55-75	30-45
	36-80	BR	---	---	---	---	---	---	---	---	---	---

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10						
					inches	inches	4	10	40	200		
	In				Pct	Pct					Pct	
73228:												
Gatewood-----	0-2	GRV-SIL	GC-GM, GC, SC	A-6, A-2, A-4	0	0-15	55-80	35-55	30-50	30-45	25-35	7-15
	2-5	GRV-SIL, GR-SIL	CL, GC, SC	A-2, A-4, A-6	0	0-15	40-90	35-85	30-75	30-70	25-35	7-15
	5-36	C, GR-C	CH	A-7	0-5	0-10	80-95	60-90	55-90	50-85	55-75	30-45
	36-80	BR	---	---	---	---	---	---	---	---	---	---
Moko-----	0-7	GRV-SIL, FLX-L, GRV-CL	GC	A-2	0-5	5-40	40-60	35-55	30-50	25-35	25-45	10-20
	7-12	CNX-SICL, CNV- CL, FLX-SIL, CNV-SIL	CL, GC, SC	A-6, A-7	0-10	40-80	65-90	60-85	55-80	40-80	25-45	10-20
	12-80	BR	---	---	---	---	---	---	---	---	---	---
73229:												
Gatewood-----	0-2	GRX-SIL	CL, GC, SC	A-4, A-6	0	0-15	55-80	50-75	45-70	40-65	25-35	7-15
	2-5	GRV-SIL, GR-SIL	GC, SC, CL	A-2, A-4, A-6	0	0-15	40-90	35-85	30-75	30-70	25-35	7-15
	5-36	C, CB-C	CH	A-7	0-5	0-10	80-95	60-90	55-90	50-85	55-75	30-45
	36-80	BR	---	---	---	---	---	---	---	---	---	---
Moko-----	0-7	GRV-SIL, FLX-L, GRV-CL	GC	A-2	0-5	5-40	40-60	35-55	30-50	25-35	25-45	10-20
	7-12	CNX-SICL, CNV- CL, FLX-SIL, CNV-SIL	CL, GC, SC	A-6, A-7	0-10	40-80	65-90	60-85	55-80	40-80	25-45	10-20
	12-80	BR	---	---	---	---	---	---	---	---	---	---
73230:												
Coulstone-----	0-1	MPM	---	---	---	---	---	---	---	---	---	---
	1-6	CBX-SL	GC-GM, GM	A-1, A-2-4	0-55	0-55	45-70	20-55	15-45	5-35	8-18	2-4
	6-29	CBX-SL, GRX-SL, CBX-L	GC, GC-GM, GM	A-1, A-2-4	0	0-55	50-70	25-50	15-45	5-35	9-29	2-10
	29-42	STX-SL, CBX-L, CBX-C	GC, GC-GM, GM	A-2-6, A-6	0-55	0-45	45-65	20-50	15-45	5-40	20-52	5-23
	42-80	STX-CL, GRV-C, CBX-SCL	GC, GC-GM, GM	A-2-6, A-6	0-75	0-37	30-60	15-50	15-45	5-40	23-52	7-23
Bender-----	0-1	MPM	---	---	---	---	---	---	---	---	---	---
	1-5	CBX-SL	GC-GM, GM	A-1	0-17	0-55	30-60	15-50	10-40	5-25	2-12	1-4
	5-21	CBX-SL, GRX- FSL, CBX-L	SM	A-2	0-31	0-55	30-60	15-50	10-40	5-30	2-20	1-5
	21-31	STX-SL, GRV- FSL, STX-COSL, GRX-L	GC, GC-GM, GM	A-2	0-90	0-90	30-60	15-50	10-40	5-20	3-34	1-13
	31-80	BR	---	---	---	---	---	---	---	---	---	---

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10						
					inches	inches	4	10	40	200		
	In				Pct	Pct					Pct	
73230: Gatewood-----	0-2	GRX-SIL	GC, GW-GC	A-2	0	0-15	30-50	10-30	10-25	5-20	25-35	7-15
	2-5	GRV-SIL, GR-SIL	CL, GC, SC	A-2, A-4, A-6	0	0-15	40-75	30-60	25-55	20-50	25-35	7-15
	5-36	C, CB-C	CH	A-7	0-5	0-10	80-95	60-90	55-90	50-85	55-75	30-45
	36-80	BR	---	---	---	---	---	---	---	---	---	---
73231: Wasola-----	0-7	SIL	CL, CL-ML	A-4, A-6	0	0-5	80-100	75-100	60-90	50-85	21-30	6-11
	7-22	SICL, SIL, GR- SIL, GR-SICL	CL	A-4, A-6	0	0-10	65-100	55-100	40-85	35-85	27-40	9-16
	22-30	GRV-SICL, GR- SICL, GR-CL, GR-L	GC	A-7-6, A-6, A-2	0	0-30	35-80	30-75	25-60	20-60	32-45	13-25
	30-80	GRV-SICL, GR- CL, GRV-C, GRV-CL	GC, GM	A-2, A-6	0	0-45	40-85	30-75	20-70	15-70	37-61	15-28
73232: Alred-----	0-3	GRV-SIL	CL, GC, GM, ML	A-1, A-2, A-4	0	0-5	30-80	25-75	25-75	15-70	16-25	3-8
	3-13	GR-SIL	CL, GC, GM, ML	A-4	0	0-5	30-80	25-75	25-75	15-70	16-25	3-8
	13-33	GRV-SIL, GRV- SICL	GC	A-2, A-6	0	0-5	25-55	25-50	25-50	25-45	20-30	5-15
	33-80	C, SIC, GR-C	CH	A-7	0	0	70-95	70-95	65-90	55-85	50-75	30-45
Ocie-----	0-5	GRV-SIL	GC-GM, CL-ML, SC, SC-SM	A-1, A-2, A-4	0	0-15	45-80	40-75	30-65	20-60	0-25	4-10
	5-11	GRV-SIL	GC, GC-GM	A-1-b, A-2-4, A-2-6, A-2	0-5	0-20	40-60	20-55	20-45	15-35	20-30	5-15
	11-24	GRV-SIL, GRX- SIL, GRV-SICL	GC, GC-GM	A-1-b, A-2-4, A-2-6, A-2	0-5	0-20	40-55	20-50	20-45	15-35	20-30	5-15
	24-56	GR-C, C	CH	A-7	0-5	0-15	75-95	70-90	65-85	60-80	50-70	30-40
	56-80	BR	---	---	---	---	---	---	---	---	---	---
73233: Alred-----	0-3	GRV-SIL	CL, GC, GM, ML	A-1, A-2, A-4	0	0-5	30-80	25-75	25-75	15-70	16-25	3-8
	3-13	GR-SIL	CL, GC, GM, ML	A-4	0	0-5	30-80	25-75	25-75	15-70	16-25	3-8
	13-33	GRV-SIL, GRV- SICL	GC	A-2, A-6	0	0-5	25-55	25-50	25-50	25-45	20-30	5-15
	33-80	C, SIC, GR-C	CH	A-7	0	0	70-95	70-95	65-90	55-85	50-75	30-45

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10						
					inches	inches	4	10	40	200		
	In				Pct	Pct					Pct	
73233: Ocie-----	0-5	GRV-SIL	GC-GM, CL-ML, SC, SC-SM	A-1, A-2, A-4	0	0-15	45-80	40-75	30-65	20-60	0-25	4-10
	5-11	GRV-SIL	GC, GC-GM	A-1-b, A-2-4, A-2-6, A-2	0-5	0-20	40-60	20-55	20-45	15-35	20-30	5-15
	11-24	GRV-SIL, GRX- SIL, GRV-SICL	GC, GC-GM	A-1-b, A-2-4, A-2-6, A-2	0-5	0-20	40-55	20-50	20-45	15-35	20-30	5-15
	24-56	GR-C, C	CH	A-7	0-5	0-15	75-95	70-90	65-85	60-80	50-70	30-40
	56-80	BR	---	---	---	---	---	---	---	---	---	---
73234: Alred-----	0-4	CBX-L	GC-GM	A-1	0	45-65	20-35	15-30	15-30	5-20	20-35	5-15
	4-17	GRX-SIL, GR-SIL	GC-GM, GC	A-1, A-1-a	0	0-15	20-60	15-55	15-55	10-45	20-35	5-15
	17-27	CBX-SICL, GRX- SICL	GC	A-2-6	0	30-50	20-35	15-30	15-30	10-25	30-45	10-20
	27-80	C, GR-C	CH	A-7, A-7-6	0	0-10	75-100	70-100	65-95	60-85	65-95	40-70
Gatewood-----	0-2	GRV-SIL	GW-GC, GC, SC	A-2, A-4, A-6	0-5	10-30	30-60	20-50	15-45	10-40	25-35	7-15
	2-5	GRV-SIL	GC	A-2-6	0	0-35	35-60	25-50	20-45	15-40	20-40	10-20
	5-36	C, GR-C	CH	A-7	0-5	0-10	80-95	60-90	55-90	50-85	55-75	30-45
	36-80	BR	---	---	---	---	---	---	---	---	---	---
73235: Alred-----	0-4	GRV-SIL	GC-GM	A-1	0	0-15	30-35	25-30	10-30	10-25	20-35	5-15
	4-17	GRX-SIL, GR-SIL	GC-GM, GC	A-1, A-1-a	0	0-15	20-60	15-55	15-55	10-45	20-35	5-15
	17-27	CBX-SICL, GRX- SICL	GC	A-2-6	0	30-50	20-35	15-30	15-30	10-25	30-45	10-20
	27-80	C, GR-C	CH	A-7, A-7-6	0	0-10	75-100	70-100	65-95	60-85	65-95	40-70
73236: Scholten-----	0-7	GRV-SIL	GM, CL-ML, GC-GM	A-2, A-4	0-3	0-15	30-80	25-75	20-75	15-70	15-19	2-4
	7-21	GRV-SIL, CBX- SIL, GRV-SICL	GC-GM, CL, GC, SC	A-4, A-2, A-6	0-4	0-30	30-75	25-65	25-65	25-65	18-32	4-12
	21-34	GRX-SIL, GRV- SIL, GRX-SICL	CL, GC	A-2, A-4, A-6	0-3	0-30	20-65	20-60	20-60	20-55	22-44	6-18
	34-80	GR-C, CBV-GRX-C	CH, CL, GC	A-2, A-7	0-10	0-30	20-65	20-60	20-60	15-55	38-77	17-48
Poynor-----	0-4	GRV-SIL	GM, GC-GM	A-2, A-1, A-2-4	0-24	0-7	25-75	25-50	20-50	10-35	12-20	2-5
	4-10	GRV-SIL, GR-SIL	GC-GM, GM	A-2, A-1-b, A-2-4, A-4	0-2	0-7	25-75	20-70	17-65	15-60	12-20	2-6
	10-28	GRV-SIL, GRX- SIL, CBX-SICL	GC	A-2, A-2-6	0-2	0-40	25-75	20-50	17-50	15-35	14-50	3-22
	28-80	GR-C, C, CB-C	CH, CL	A-7	0-3	0-65	80-100	70-100	65-95	60-90	41-80	20-53

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches						
							4	10	40	200		
	In				Pct	Pct					Pct	
73237:												
Clarksville-----	0-3	GRV-SIL	GC, GC-GM	A-2-4	0-5	0-10	30-55	25-50	25-50	20-45	10-35	2-15
	3-14	GRV-SIL, GRX-SIL	GC, GC-GM	A-2-6, A-4, A-6, A-2-4	0-5	0-10	20-55	15-50	15-45	10-40	10-35	2-15
	14-45	CBX-L, GRV-L, GRV-SCL	GC, GC-GM	A-2-4, A-1-a, A-2-6	0-5	10-50	30-60	25-55	25-55	10-45	15-40	5-20
	45-80	CBX-C, GRV-C	GC-GM	A-2-7, A-7	0-5	10-50	30-60	25-55	25-55	20-50	50-75	25-60
73239:												
Rueter-----	0-3	GRV-SIL	GC, GC-GM	A-2-4	0-5	0-10	30-55	25-50	25-50	20-45	10-35	2-15
	3-14	GRV-SIL, GRX-SIL	GC, GC-GM	A-2-6, A-4, A-6, A-2-4	0-5	0-10	20-55	15-50	15-45	10-40	10-35	2-15
	14-45	CBX-L, GRV-L, GRV-SCL	GC, GC-GM	A-2-4, A-1-a, A-2-6	0-5	10-50	30-60	25-55	25-55	10-45	15-40	5-20
	45-80	CBX-C, GRV-C	GC-GM	A-2-7, A-7	0-5	10-50	30-60	25-55	25-55	20-50	50-75	25-60
Rock outcrop.												
73240:												
Jerktail-----	0-6	SIL	CL, CL-ML	A-4	0-2	0-5	80-100	70-100	60-95	50-90	21-28	4-9
	6-14	SIL, GR-SIL, GR-SICL, SICL	CL	A-6, A-7	0-2	0-5	60-100	55-100	50-95	50-90	30-48	11-25
	14-21	GR-SICL, SICL, GR-SIC, SIC	CH, CL, GC, SC	A-7	0-5	0-10	65-100	50-100	40-95	35-95	44-66	22-39
	21-63	GR-C, C, GRV-C	CH, GC, SC	A-2-7	0-5	0-10	40-100	35-100	30-95	30-95	57-88	32-52
	63-80	BR	---	---	---	---	---	---	---	---	---	---
73242:												
Fanchon-----	0-5	SIL	CL, CL-ML	A-4, A-6	0	0	80-100	75-100	65-95	50-90	21-30	6-11
	5-10	SIL	CL, CL-ML	A-4, A-6	0	0	80-100	75-100	65-95	50-90	21-30	6-11
	10-28	SICL, GR-SIL, GR-SICL, SIL	CL	A-4, A-6	0-3	0-5	60-100	50-95	45-90	40-80	27-40	9-16
	28-47	GRV-L, GR-CL, GRV-CL	GC	A-2, A-6, A-7-6	0-5	0-20	45-80	35-75	35-75	30-55	32-45	13-25
	47-80	C, GR-C, GRV-C, GR-SIC	GC, CL, CH	A-7, A-6	0-5	0-15	30-100	25-100	25-95	20-80	37-61	15-28
Tonti-----	0-6	SIL	CL-ML, SC-SM	A-4	0	0-4	80-100	75-95	55-90	45-85	15-25	3-6
	6-22	SICL, GR-SIL, GR-SICL, SIL	CL, GC, SC	A-4, A-6	0	0-4	65-100	60-95	55-90	45-85	25-40	7-22
	22-35	GRV-SIL, GRX-SIL, GRX-L	CL, GC, SC	A-2, A-4, A-6	0-40	0-15	35-75	30-70	25-70	20-65	20-34	6-18
	35-80	CB-C, GR-STX-C, SIC	CH, CL, GC, SC, MH	A-2, A-7	0-5	0-75	20-100	5-90	5-85	5-80	41-70	17-35

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10						
					inches	inches	4	10	40	200		
	In				Pct	Pct					Pct	
73243: Topazmill-----	0-9	L	CL-ML, ML, SC-SM, SM	A-4	0	0	90-100	90-100	65-100	40-65	15-25	NP-10
	9-31	L, CL	CL	A-6	0	0	90-100	90-100	65-100	55-80	25-35	10-15
	31-80	L, SCL, CL	CL, SC	A-6	0	0	85-100	85-100	60-95	45-70	25-40	10-20
73245: Alred-----	0-3	GRV-SIL	GC-GM, GC, GM	A-4	0	0-5	35-55	30-50	30-50	25-40	16-25	3-8
	3-13	GRV-SIL	GC-GM, GC, GM	A-4	0	0-5	30-55	25-50	20-50	15-40	16-25	3-8
	13-33	GRV-SIL, GRV- SICL	GC	A-2, A-6	0	0-5	25-55	25-50	25-50	25-45	20-30	5-15
	33-80	C, SIC, GR-C	CH	A-7	0	0	70-95	70-95	65-90	55-85	50-75	30-45
73246: Alred-----	0-3	GRV-SIL	GC-GM, GC, GM	A-1, A-2, A-4	0	0-5	30-55	25-50	25-50	20-40	16-25	3-8
	3-13	GRV-SIL, GR-SIL	CL, GC, GM, ML	A-4	0	0-5	30-80	25-75	25-75	15-70	16-25	3-8
	13-33	GRV-SIL, GRV- SICL	GC	A-2, A-6	0	0-5	30-55	25-50	25-50	15-45	20-30	5-15
	33-80	C, SIC, GR-C	CH	A-7	0	0	70-95	70-95	65-90	55-85	50-75	30-45
73247: Alred-----	0-4	GRX-SIL	GC-GM	A-1	0	0-20	20-35	15-30	15-30	5-20	20-35	5-15
	4-17	GRX-SIL, GR- SIL, GRV-SIL	GC-GM, GC	A-1, A-1-a	0	0-15	20-60	15-55	15-55	10-45	20-35	5-15
	17-27	CBX-SICL, GRX- SICL	GC	A-2-6	0	30-50	20-35	15-30	15-30	10-25	30-45	10-20
	27-80	C, GR-C	CH	A-7, A-7-6	0	0-10	75-100	70-100	65-95	60-85	65-95	40-70
73248: Alred-----	0-4	CBX-L	GC-GM	A-1	0	45-65	10-35	10-30	10-25	5-20	20-35	5-15
	4-17	GRV-SIL, GRX- SIL, GR-SIL	GC-GM, GC	A-1, A-1-a	0	0-15	20-60	15-55	15-55	10-45	20-35	5-15
	17-27	CBX-SICL, GRX- SICL	GC	A-2-6	0	30-50	10-35	10-30	10-25	5-20	30-45	10-20
	27-80	C, GR-C	CH	A-7, A-7-6	0	0-10	75-100	70-100	65-95	60-85	65-95	40-70
Bendavis-----	0-5	GRV-SIL	GC, GC-GM, GM	A-2-4, A-2	0-5	0-5	35-50	30-45	30-45	25-35	10-25	2-10
	5-9	GRV-SIL, GR-SIL	GC, GM	A-2-4, A-2	0-5	0-5	35-65	30-60	30-60	25-50	10-25	2-10
	9-25	GRV-SIL, GRV- SICL	GC	A-2-6, A-2-4, A-2	0-5	0-5	35-50	30-45	30-45	25-35	25-35	5-15
	25-80	BR	---	---	---	---	---	---	---	---	---	---



Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10						
					inches	inches	4	10	40	200		
	In				Pct	Pct					Pct	
73249:												
Alred-----	0-4	CBX-L	GC-GM	A-1	0	45-65	10-35	10-30	10-25	5-20	20-35	5-15
	4-17	GRV-SIL, GRX-SIL, GR-SIL	GC-GM, GC	A-1, A-1-a	0	0-15	20-60	15-55	15-55	10-45	20-35	5-15
	17-27	CBX-SICL, GRX-SICL	GC	A-2-6	0	30-50	10-35	10-30	10-25	5-20	30-45	10-20
	27-80	C, GR-C	CH	A-7, A-7-6	0	0-10	75-100	70-100	65-95	60-85	65-95	40-70
Ocie-----	0-5	GRV-SIL	GC, GC-GM	A-1, A-2, A-4	0	0-15	35-60	30-55	25-50	20-45	0-25	4-10
	5-11	GRV-SIL	GC, GC-GM	A-1-b, A-2-4, A-2-6, A-2	0-5	0-20	40-55	20-50	20-45	15-35	20-30	5-15
	11-24	GRV-SIL, GRX-SIL, GRV-SICL	GC, GC-GM	A-1-b, A-2-4, A-2-6, A-2	0-5	0-20	40-55	20-50	20-45	15-35	20-30	5-15
	24-56	GR-C, C	CH	A-7	0-5	0-15	75-95	70-90	65-85	60-80	50-70	30-40
	56-80	BR	---	---	---	---	---	---	---	---	---	---
Bendavis-----	0-3	GRV-SIL	GC, GC-GM, GM	A-2-4, A-4, A-2	0-5	0-5	30-55	25-50	20-45	15-40	12-20	2-8
	3-14	GR-SIL, GRV-SIL	GC, GM, ML	A-4	0-5	0-5	35-80	30-75	25-70	20-65	12-20	2-8
	14-34	GRV-SIL, GRV-SICL	GC, GC-GM	A-2-6, A-6, A-2	0-5	0-5	35-60	30-50	25-45	20-40	23-30	7-12
	34-80	BR	---	---	---	---	---	---	---	---	---	---
74626:												
Tanglenook-----	0-6	SIL	CL	A-4	0	0	100	100	95-100	80-90	27-32	7-10
	6-17	SICL, SIL	CL	A-6, A-7	0	0	100	100	95-100	85-90	35-45	16-25
	17-30	SIC, SICL, C	CH, CL	A-7	0	0	100	100	95-100	95-100	45-55	25-32
	30-56	SIC, SICL, C	CH, CL	A-7	0	0	100	100	95-100	95-100	45-55	25-32
	56-80	SIC, C, SICL	CH, CL	A-7	0	0	100	100	95-100	95-100	45-55	25-32
74657:												
Pomme-----	0-7	SIL	CL, CL-ML	A-4, A-6	0	0-5	80-100	75-100	70-95	50-90	21-30	6-11
	7-19	SICL, GR-SIL, GR-SICL	CL	A-4, A-6	0	0-10	70-95	65-90	50-85	50-75	27-40	9-16
	19-57	GRV-SICL, CBV-SICL	GC	A-2, A-6, A-7-6	0	0-30	25-50	25-45	25-45	20-40	32-45	13-25
	57-80	GRX-C, CBV-C	GC, GM	A-2, A-6	0	0-45	20-45	20-45	20-45	15-40	37-61	15-28
74658:												
Zanoni-----	0-7	FSL	CL-ML, ML, SM	A-4	0	0	85-100	75-100	60-85	40-55	14-23	3-6
	7-36	FSL, L, GR-SL, SL	CL-ML, ML, SC-SM, SM	A-4	0	0	75-100	65-100	55-85	35-55	12-29	3-10
	36-50	SL, FSL, GR-SL, L, SCL	CL-ML, ML, SC-SM, SM	A-6, A-4	0	0	60-100	50-95	35-80	20-50	12-32	3-13
	50-80	SR- GRX-LS GR-L	SC-SM, SM	A-2	0	0	20-80	10-75	5-40	5-25	12-30	3-11

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	sieve number--					
							4	10	40	200		
	In				Pct	Pct					Pct	
75382: Cedargap-----	0-8	GR-L	GM, SM, ML	A-4	0	0-5	60-85	50-75	45-70	35-50	25-35	3-9
	8-46	GRV-L, GRV-CL, GR-SIL, GRX- SCL	GM, SM	A-4, A-1, A-2	0	0-15	25-60	20-55	20-50	15-40	25-35	3-9
	46-80	GRV-CL, GRX-L, GRV-L, GRX-SCL	GC, GC-GM	A-2, A-1-b, A-2-4, A-2-6	0-10	0-20	30-60	25-55	20-50	15-40	20-35	5-20
75390: Razort-----	0-7	SIL	CL-ML	A-4	0	0	80-100	75-100	70-100	55-90	20-35	5-15
	7-34	SIL, L, CL	CL	A-6	0	0	80-100	75-100	70-95	50-75	30-45	10-20
	34-80	GR-L, GRV-L	CL, CL-ML, GC	A-6, A-4	0	0	35-80	30-75	25-70	20-50	20-35	5-15
75406: Racket-----	0-10	L	CL, CL-ML	A-4, A-6	0	0	90-100	85-100	75-95	60-70	25-40	5-20
	10-30	L, GR-L, SIL	CL, CL-ML	A-4, A-6	0	0	75-100	70-100	60-95	45-85	25-40	5-20
	30-45	L, GR-L, GRV-L	CL, CL-ML	A-4, A-6	0	0	45-100	40-100	35-95	25-70	25-40	5-20
	45-80	SR- GRX-S GR-SL	GM, GP-GM, SM, SP-SM	A-1	0	0	15-90	10-85	5-60	5-35	10-40	2-25
75417: Relfe-----	0-6	GRV-SL	GW-GM, GC, GC-GM	A-2-4, A-1-b	0-1	0-10	30-55	25-50	15-35	10-20	10-25	3-9
	6-80	SR- CBX-COS GRV-LS	GC-GM, GW-GM, SP-SM, GW-GC	A-1-b, A-2-4	0-5	0-40	25-60	10-55	5-40	3-15	8-20	2-10
Sandbur-----	0-8	FSL	SC-SM, SM	A-4	0	0	80-100	75-100	60-80	35-50	10-30	NP-10
	8-50	SR- FS SIL	CL-ML, SC-SM, ML, SM	A-4	0	0-5	80-100	75-100	55-95	20-85	10-30	NP-10
	50-80	GRX-LCOS, GRX- COSL, GRV-SL, GR-L	GW-GC, SW-SC	A-2	0-5	0-30	30-60	20-55	10-30	5-20	10-30	NP-10
75422: Secesh-----	0-8	L	ML	A-4	0	0-10	85-100	80-100	75-95	60-90	20-30	NP-7
	8-17	L, SIL, SICL	CL, CL-ML	A-4, A-6	0	0-10	80-100	75-100	70-95	60-90	25-35	5-12
	17-23	GR-SICL, GR- SIL, L	CL, GC, SC	A-6	0	0-10	65-90	55-85	50-75	40-65	30-40	11-20
	23-80	GR-SC, GRV-SC, GRV-SCL, GR-CL	GC, SC	A-2-6, A-6	0	10-20	50-75	35-65	25-45	20-40	30-45	11-20



Table 18.--Physical Properties of the Soils

(Entries under "Erosion factors--T" apply to the entire profile. Entries under "Wind erodibility group" and "Wind erodibility index" apply only to the surface layer. Absence of an entry indicates that data were not estimated)

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
70026: Tonti-----	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
	0-8	8-20	60-82	10-20	1.30-1.50	4.00-14.00	0.15-0.20	0.1-2.9	1.0-3.0	.37	.43	4	5	56
	8-20	6-18	47-74	20-35	1.30-1.50	4.00-14.00	0.12-0.18	0.1-2.9	0.1-1.0	.32	.37			
	20-34	10-30	40-75	15-35	1.60-1.90	0.01-0.42	0.02-0.08	0.1-2.9	0.1-0.5	.28	.37			
	34-80	5-15	5-55	40-80	1.20-1.40	1.40-4.00	0.05-0.10	3.0-5.9	0.1-0.5	.24	.32			
73000: Pomme-----	0-7	10-35	50-80	10-20	1.35-1.45	4.00-14.00	0.16-0.21	0.1-2.9	1.0-4.0	.37	.37	5	5	56
	7-19	5-35	40-77	18-30	1.30-1.45	4.00-14.00	0.14-0.21	0.1-2.9	0.2-1.0	.32	.43			
	19-57	5-35	40-67	28-40	1.30-1.45	4.00-14.00	0.08-0.14	0.1-2.9	0.1-1.0	.28	.43			
	57-80	5-25	10-50	27-70	1.25-1.40	1.40-14.00	0.04-0.14	3.0-5.9	0.1-0.5	.20	.28			
73015: Viraton-----	0-3	5-20	60-80	10-25	1.30-1.50	4.00-14.00	0.20-0.22	0.1-2.9	1.0-3.0	.43	.43	4	6	48
	3-7	5-20	60-80	10-25	1.30-1.50	4.00-14.00	0.18-0.20	0.1-2.9	0.5-2.0	.43	.43			
	7-23	5-20	55-75	18-30	1.30-1.50	1.40-4.00	0.13-0.15	3.0-5.9	0.5-0.8	.28	.43			
	23-48	15-35	50-75	15-25	1.60-1.90	0.42-1.40	0.01-0.05	0.1-2.9	0.1-0.3	.15	.32			
	48-80	5-25	10-35	40-70	1.40-1.60	0.42-4.20	0.06-0.08	6.0-8.9	0.1-0.5	.20	.24			
73017: Bendavis-----	0-3	14-35	50-81	5-15	1.30-1.50	14.00-42.00	0.09-0.12	0.1-2.9	1.0-3.0	.15	.37	2	5	56
	3-14	15-35	50-77	8-18	1.30-1.50	14.00-42.00	0.09-0.17	0.1-2.9	0.5-2.0	.24	.37			
	14-34	12-30	43-78	10-30	1.30-1.50	4.00-14.00	0.10-0.15	0.1-2.9	0.1-0.8	.17	.37			
	34-80	---	---	---	---	0.00-0.11	---	---	---	---	---			
Poynor-----	0-4	10-25	55-84	6-20	1.20-1.45	14.00-42.00	0.04-0.12	0.1-2.9	1.0-3.0	.28	.37	3	8	0
	4-10	15-25	45-77	8-15	1.25-1.45	14.00-42.00	0.02-0.09	0.1-2.9	0.5-2.0	.28	.43			
	10-28	10-30	45-75	15-35	1.40-1.55	4.00-14.00	0.02-0.09	0.1-2.9	0.1-0.8	.28	.43			
	28-80	1-15	5-50	45-80	1.50-1.65	4.00-14.00	0.08-0.12	3.0-5.9	0.1-0.5	.28	.28			
73019: Poynor-----	0-4	15-30	50-80	5-20	1.20-1.45	14.00-42.00	0.04-0.12	0.1-2.9	0.5-1.0	.28	.37	3	8	0
	4-10	5-25	60-90	5-15	1.25-1.45	14.00-42.00	0.02-0.09	0.1-2.9	0.5-1.0	.28	.43			
	10-28	5-15	50-80	15-35	1.40-1.55	4.00-14.00	0.02-0.09	0.1-2.9	0.1-0.5	.28	.43			
	28-80	2-20	5-53	45-75	1.50-1.65	4.00-14.00	0.08-0.12	3.0-5.9	0.1-0.5	.28	.28			
73023: Mano-----	0-3	20-30	52-75	5-18	1.20-1.40	4.00-14.00	0.13-0.18	0.1-2.9	1.0-4.0	.28	.43	4	8	0
	3-13	20-30	55-75	5-15	1.20-1.40	4.00-14.00	0.13-0.18	0.1-2.9	0.5-2.0	.28	.43			
	13-33	8-20	50-80	12-30	1.30-1.40	4.00-14.00	0.04-0.14	0.1-2.9	0.2-1.0	.28	.43			
	33-80	1-20	5-44	55-75	1.30-1.60	0.42-1.40	0.06-0.12	6.0-8.9	0.1-0.8	.28	.28			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
73023: Ocie-----	0-5	10-35	50-85	5-20	1.10-1.40	4.00-14.00	0.12-0.17	0.1-2.9	1.0-4.0	.28	.37	3	8	0
	5-11	10-35	45-85	5-20	1.10-1.35	4.00-14.00	0.12-0.15	0.1-2.9	0.5-2.0	.32	.43			
	11-24	5-25	40-75	20-35	1.10-1.35	4.00-14.00	0.12-0.15	0.1-2.9	0.1-1.0	.32	.43			
	24-56	2-10	4-33	65-86	1.10-1.30	0.42-1.40	0.07-0.10	6.0-8.9	0.1-1.0	.24	.28			
	56-80	---	---	---	---	0.00-0.11	---	---	---	---	---			
73024: Mano-----	0-3	20-30	52-75	5-18	1.20-1.40	4.00-14.00	0.13-0.18	0.1-2.9	1.0-4.0	.28	.43	4	8	0
	3-13	20-30	55-75	5-15	1.20-1.40	4.00-14.00	0.13-0.18	0.1-2.9	0.5-1.0	.28	.43			
	13-33	8-20	50-80	12-30	1.30-1.40	4.00-14.00	0.04-0.14	0.1-2.9	0.2-1.0	.28	.43			
	33-80	1-20	5-40	55-75	1.30-1.60	0.42-1.40	0.06-0.12	6.0-8.9	0.1-0.8	.24	.28			
Ocie-----	0-5	10-35	50-85	5-20	1.10-1.40	4.00-14.00	0.12-0.17	0.1-2.9	1.0-4.0	.28	.37	3	8	0
	5-11	10-35	50-85	5-20	1.10-1.35	4.00-14.00	0.12-0.15	0.1-2.9	0.5-2.0	.32	.43			
	11-24	5-25	40-75	20-35	1.10-1.35	4.00-14.00	0.12-0.15	0.1-2.9	0.1-1.0	.32	.43			
	24-56	2-10	4-33	65-86	1.10-1.30	0.42-1.40	0.07-0.10	6.0-8.9	0.1-1.0	.24	.28			
	56-80	---	---	---	---	0.00-0.11	---	---	---	---	---			
73069: Tick-----	0-5	22-45	50-64	8-18	1.20-1.45	14.00-42.00	0.06-0.22	0.0-2.9	1.0-3.0	.28	.37	5	8	0
	5-10	14-45	45-68	9-20	1.25-1.45	14.00-42.00	0.08-0.22	0.0-2.9	0.7-2.0	.28	.43			
	10-18	11-50	32-64	14-40	1.40-1.55	0.42-14.00	0.05-0.20	0.0-2.9	0.2-0.7	.28	.43			
	18-42	1-36	21-49	40-69	1.40-1.55	0.42-4.00	0.04-0.11	3.0-5.9	0.1-0.5	.28	.28			
	42-80	1-27	19-42	40-78	1.50-1.65	0.42-1.40	0.01-0.04	3.0-5.9	0.0-0.5	.28	.28			
73073: Scholten-----	0-7	17-33	54-74	9-13	1.20-1.40	14.00-42.00	0.07-0.19	0.1-2.9	1.0-3.0	.28	.37	4	8	0
	7-21	13-25	47-75	12-28	1.30-1.50	4.00-14.00	0.02-0.11	0.1-2.9	0.2-0.7	.32	.43			
	21-34	11-32	40-72	17-40	1.60-1.90	0.00-0.42	0.01-0.05	0.1-5.9	0.1-0.3	.32	.43			
	34-80	6-40	10-50	35-80	1.30-1.60	4.00-14.00	0.01-0.03	3.0-5.9	0.1-0.3	.20	.28			
Poynor-----	0-4	12-37	50-80	6-15	1.20-1.45	4.00-14.00	0.04-0.12	0.1-2.9	1.0-3.0	.28	.37	3	8	0
	4-10	15-30	50-70	8-16	1.25-1.45	4.00-14.00	0.02-0.09	0.1-2.9	0.2-1.0	.28	.43			
	10-28	5-15	50-80	15-35	1.40-1.55	4.00-14.00	0.02-0.09	0.1-2.9	0.1-1.0	.28	.43			
	28-80	2-40	5-40	45-86	1.50-1.65	1.40-4.00	0.07-0.09	3.0-5.9	0.1-0.9	.28	.28			
73076: Mano-----	0-3	20-30	52-75	5-18	1.20-1.40	4.00-14.00	0.13-0.18	0.1-2.9	1.0-4.0	.28	.43	4	8	0
	3-13	20-30	55-75	5-15	1.20-1.40	4.00-14.00	0.13-0.18	0.1-2.9	0.5-1.0	.28	.43			
	13-33	8-20	50-80	12-30	1.30-1.40	4.00-14.00	0.04-0.14	0.1-2.9	0.3-1.0	.32	.43			
	33-80	1-20	5-40	55-75	1.30-1.60	0.42-1.40	0.06-0.12	6.0-8.9	0.1-0.8	.24	.28			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
73076: Ocie-----	0-5	10-35	50-85	5-20	1.10-1.40	4.00-14.00	0.12-0.17	0.1-2.9	1.0-4.0	.28	.37	3	8	0
	5-11	10-35	50-85	5-20	1.10-1.35	4.00-14.00	0.12-0.15	0.1-2.9	0.5-2.0	.32	.43			
	11-24	5-25	40-75	20-35	1.10-1.35	4.00-14.00	0.12-0.15	0.1-2.9	0.1-1.0	.32	.43			
	24-56	2-10	4-33	65-86	1.10-1.30	0.42-1.40	0.07-0.10	6.0-8.9	0.1-1.0	.24	.28			
	56-80	---	---	---	---	0.00-0.11	---	---	---	---	---			
73198: Gressy-----	0-7	15-35	50-76	9-20	1.35-1.45	14.00-42.00	0.19-0.24	0.0-2.9	1.0-4.0	.37	.37	5	5	56
	7-31	15-40	30-71	14-30	1.30-1.45	4.00-14.00	0.12-0.18	0.0-2.9	0.1-0.7	.37	.43			
	31-49	15-45	25-50	27-40	1.30-1.45	4.00-14.00	0.08-0.14	3.0-5.9	0.1-0.5	.28	.43			
	49-80	10-35	10-40	45-75	1.25-1.40	0.42-1.40	0.05-0.12	6.0-8.9	0.0-0.4	.20	.28			
Viraton-----	0-3	5-20	60-80	10-20	1.30-1.50	4.00-14.00	0.20-0.22	0.1-2.9	1.0-4.0	.43	.43	4	6	48
	3-7	5-20	60-80	10-20	1.30-1.50	4.00-14.00	0.18-0.20	0.1-2.9	0.5-2.0	.43	.43			
	7-23	5-20	55-75	18-30	1.30-1.50	4.00-14.00	0.13-0.15	3.0-5.9	0.5-0.8	.28	.43			
	23-48	15-35	50-75	15-25	1.60-1.90	0.00-0.42	0.01-0.05	0.1-2.9	0.1-0.5	.15	.32			
	48-80	5-25	10-35	45-70	1.40-1.60	0.42-4.20	0.06-0.08	6.0-8.9	0.1-0.5	.20	.24			
73199: Moko-----	0-7	10-50	30-50	8-27	1.25-1.50	4.00-14.00	0.08-0.13	0.0-2.9	2.0-10	.24	.37	1	8	0
	7-12	10-50	25-70	10-35	1.25-1.60	4.00-14.00	0.03-0.14	0.0-2.9	1.0-8.0	.28	.43			
	12-80	---	---	---	---	0.00-0.11	---	---	---	---	---			
Rock outcrop.														
73220: Poynor-----	0-4	12-37	50-80	6-14	1.20-1.45	4.00-14.00	0.04-0.12	0.1-2.9	0.7-6.0	.28	.37	3	8	0
	4-10	20-31	50-70	8-27	1.25-1.45	4.00-14.00	0.02-0.09	0.1-2.9	0.2-1.0	.28	.43			
	10-28	5-15	50-80	10-35	1.40-1.55	4.00-14.00	0.02-0.09	0.1-2.9	0.1-1.0	.28	.43			
	28-80	2-41	5-40	40-86	1.50-1.65	1.40-4.00	0.08-0.12	3.0-5.9	0.1-0.5	.28	.28			
73221: Poynor-----	0-4	10-25	55-84	6-20	1.20-1.45	14.00-42.00	0.04-0.12	0.1-2.9	1.0-3.0	.28	.37	3	8	0
	4-10	15-25	45-77	8-15	1.25-1.45	14.00-42.00	0.02-0.09	0.1-2.9	0.5-2.0	.28	.43			
	10-28	10-40	45-75	15-35	1.40-1.55	4.00-14.00	0.02-0.09	0.1-2.9	0.1-0.8	.28	.43			
	28-80	1-15	5-50	45-80	1.50-1.65	1.40-4.00	0.08-0.12	3.0-5.9	0.1-0.5	.28	.28			
73222: Splitlimb-----	0-10	11-19	65-77	9-18	1.30-1.50	4.00-14.00	0.23-0.24	0.0-2.9	1.0-4.0	.37	.37	5	5	56
	10-20	9-12	58-74	14-32	1.30-1.65	4.00-14.00	0.20-0.22	3.0-5.9	0.3-1.0	.43	.43			
	20-29	5-18	56-78	15-35	1.50-1.70	1.40-14.00	0.16-0.20	3.0-5.9	0.2-0.5	.32	.32			
	29-80	4-14	54-73	21-37	1.50-1.70	1.40-4.00	0.15-0.19	3.0-5.9	0.1-0.3	.32	.32			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
73223:														
Coulstone-----	0-1	---	---	---	---	42.00-141.00	0.10-0.20	---	35-90	---	---	3	8	0
	1-6	40-70	25-50	5-12	1.20-1.45	14.00-42.00	0.03-0.10	0.1-2.9	1.0-3.0	.28	.37			
	6-29	35-70	25-50	6-24	1.25-1.45	14.00-42.00	0.02-0.09	0.1-2.9	0.2-1.0	.28	.43			
	29-42	35-60	15-55	14-50	1.40-1.55	1.40-42.00	0.02-0.10	0.1-2.9	0.1-0.3	.28	.43			
	42-80	30-55	8-40	20-55	1.50-1.65	1.40-42.00	0.02-0.11	0.1-5.9	0.1-0.3	.28	.28			
Bender-----	0-1	---	---	---	---	42.00-141.00	0.10-0.20	---	35-90	---	---	2	8	0
	1-5	50-75	15-50	1-8	1.30-1.50	14.00-42.00	0.01-0.09	0.0-2.9	1.5-3.0	.17	.24			
	5-21	45-75	10-55	1-15	1.30-1.50	14.00-42.00	0.01-0.06	0.0-2.9	0.2-1.5	.17	.32			
	21-31	40-85	5-50	2-30	1.30-1.50	14.00-42.00	0.01-0.06	0.0-2.9	0.0-0.5	.17	.32			
	31-80	---	---	---	---	0.00-0.11	---	---	---	---	---			
73224:														
Moko-----	0-7	10-50	25-50	10-27	1.25-1.50	4.00-14.00	0.08-0.13	0.0-2.9	2.0-10	.24	.37	1	8	0
	7-12	10-50	25-70	10-35	1.25-1.60	4.00-14.00	0.03-0.14	0.0-2.9	1.0-8.0	.28	.43			
	12-80	---	---	---	---	0.00-0.11	---	---	---	---	---			
Rock outcrop.														
73225:														
Ocie-----	0-5	10-35	45-85	5-20	1.10-1.40	4.00-14.00	0.12-0.17	0.1-2.9	2.0-12	.32	.37	3	8	0
	5-11	10-35	45-85	5-20	1.10-1.35	4.00-14.00	0.12-0.15	0.1-2.9	0.5-2.0	.32	.43			
	11-24	5-25	40-75	20-35	1.10-1.35	4.00-14.00	0.12-0.15	0.1-2.9	0.1-1.0	.32	.43			
	24-56	2-10	4-33	65-86	1.10-1.30	0.42-1.40	0.07-0.10	6.0-8.9	0.1-1.0	.32	.32			
	56-80	---	---	---	---	0.00-0.11	---	---	---	---	---			
Gatewood-----	0-2	15-30	50-75	10-20	1.10-1.40	4.00-14.00	0.12-0.17	0.1-2.9	2.0-8.0	.32	.37	2	8	0
	2-5	15-30	50-78	7-20	1.10-1.40	4.00-14.00	0.12-0.17	0.1-2.9	0.5-2.0	.32	.37			
	5-36	2-20	5-35	60-85	1.10-1.30	0.42-1.40	0.09-0.12	6.0-8.9	0.5-1.0	.24	.32			
	36-80	---	---	---	---	0.00-0.11	---	---	---	---	---			
73226:														
Ocie-----	0-5	10-35	45-85	5-20	1.10-1.40	4.00-14.00	0.12-0.17	0.1-2.9	1.0-4.0	.32	.37	3	8	0
	5-11	10-35	45-85	5-20	1.10-1.35	4.00-14.00	0.12-0.15	0.1-2.9	0.5-2.0	.32	.43			
	11-24	5-25	40-75	20-35	1.10-1.35	4.00-14.00	0.12-0.15	0.1-2.9	0.1-1.0	.32	.43			
	24-56	2-10	4-33	65-86	1.10-1.30	0.42-1.40	0.07-0.10	6.0-8.9	0.1-1.0	.32	.32			
	56-80	---	---	---	---	0.00-0.11	---	---	---	---	---			
Gatewood-----	0-2	15-30	50-75	10-20	1.10-1.40	4.00-14.00	0.12-0.17	0.1-2.9	1.0-4.0	.32	.37	2	8	0
	2-5	15-30	50-78	7-20	1.10-1.40	4.00-14.00	0.12-0.17	0.1-2.9	0.5-2.0	.32	.37			
	5-36	2-20	5-35	60-85	1.10-1.30	0.42-1.40	0.09-0.12	6.0-8.9	0.5-1.0	.24	.32			
	36-80	---	---	---	---	0.00-0.11	---	---	---	---	---			



Table 18.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
73227:	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
Ocie-----	0-5	15-30	52-80	5-18	1.10-1.40	4.00-14.00	0.12-0.17	0.1-2.9	1.0-4.0	.32	.37	3	8	0
	5-11	12-30	55-83	5-15	1.10-1.40	4.00-14.00	0.12-0.17	0.1-2.9	0.5-2.0	.32	.37			
	11-24	5-30	35-80	15-35	1.10-1.35	4.00-14.00	0.12-0.15	0.1-2.9	0.1-1.0	.32	.43			
	24-56	2-14	16-43	55-70	1.10-1.30	0.42-1.40	0.09-0.12	6.0-8.9	0.5-1.0	.24	.32			
	56-80	---	---	---	---	0.00-0.11	---	---	---	---	---			
Gatewood-----	0-2	15-30	50-75	10-20	1.10-1.40	4.00-14.00	0.06-0.12	0.1-2.9	1.0-4.0	.28	.37	2	8	0
	2-5	15-30	50-78	7-20	1.10-1.35	4.00-14.00	0.12-0.15	0.1-2.9	0.5-2.0	.10	.32			
	5-36	2-20	5-35	60-85	1.10-1.30	0.42-1.40	0.09-0.12	6.0-8.9	0.5-1.0	.24	.32			
	36-80	---	---	---	---	0.00-0.11	---	---	---	---	---			
73228:														
Gatewood-----	0-2	15-30	50-75	10-20	1.10-1.40	4.00-14.00	0.12-0.17	0.1-2.9	2.0-8.0	.32	.37	2	8	0
	2-5	15-30	50-78	7-20	1.10-1.40	4.00-14.00	0.12-0.17	0.1-2.9	0.5-2.0	.32	.37			
	5-36	2-20	5-35	60-85	1.10-1.30	0.42-1.40	0.09-0.12	6.0-8.9	0.5-1.0	.24	.32			
	36-80	---	---	---	---	0.00-0.11	---	---	---	---	---			
Moko-----	0-7	10-50	25-70	8-35	1.25-1.50	4.00-14.00	0.08-0.13	0.0-2.9	2.0-10	.24	.37	1	8	0
	7-12	10-50	25-70	8-35	1.25-1.60	4.00-14.00	0.03-0.14	0.0-2.9	1.0-8.0	.28	.43			
	12-80	---	---	---	---	0.00-0.11	---	---	---	---	---			
73229:														
Gatewood-----	0-2	15-30	50-75	10-20	1.10-1.40	4.00-14.00	0.12-0.17	0.1-2.9	2.0-8.0	.32	.37	2	8	0
	2-5	15-30	50-78	7-20	1.10-1.40	4.00-14.00	0.12-0.17	0.1-2.9	0.5-2.0	.32	.37			
	5-36	2-20	5-35	60-85	1.10-1.30	0.42-1.40	0.09-0.12	6.0-8.9	0.5-1.0	.24	.32			
	36-80	---	---	---	---	0.00-0.11	---	---	---	---	---			
Moko-----	0-7	10-50	25-70	8-35	1.25-1.50	4.00-14.00	0.08-0.13	0.0-2.9	2.0-10	.24	.37	1	8	0
	7-12	10-50	25-70	8-35	1.25-1.60	4.00-14.00	0.03-0.14	0.0-2.9	1.0-8.0	.28	.43			
	12-80	---	---	---	---	0.00-0.11	---	---	---	---	---			
73230:														
Coulstone-----	0-1	---	---	---	---	42.00-141.00	0.10-0.20	---	35-90	---	---	3	8	0
	1-6	40-70	25-55	5-12	1.20-1.45	14.00-42.00	0.03-0.10	0.1-2.9	1.0-3.0	.28	.37			
	6-29	35-70	25-55	6-24	1.25-1.45	14.00-42.00	0.02-0.09	0.1-2.9	0.2-1.0	.28	.43			
	29-42	35-60	15-55	14-50	1.40-1.55	1.40-42.00	0.02-0.10	0.1-2.9	0.1-0.3	.28	.43			
	42-80	30-55	8-40	18-50	1.50-1.65	1.40-42.00	0.02-0.11	0.1-5.9	0.1-0.3	.28	.28			
Bender-----	0-1	---	---	---	---	42.00-141.00	0.10-0.20	---	35-90	---	---	2	8	0
	1-5	50-75	17-49	1-8	1.30-1.50	14.00-42.00	0.01-0.09	0.0-2.9	1.5-3.0	.17	.24			
	5-21	45-75	10-54	1-15	1.30-1.50	14.00-42.00	0.01-0.06	0.0-2.9	0.2-1.5	.17	.32			
	21-31	40-85	5-48	2-30	1.30-1.50	14.00-42.00	0.01-0.06	0.0-2.9	0.0-0.5	.17	.32			
	31-80	---	---	---	---	0.00-0.11	0.01-0.01	---	---	---	---			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
73230: Gatewood-----	0-2	15-30	50-75	10-20	1.10-1.40	4.00-14.00	0.12-0.17	0.1-2.9	1.0-4.0	.32	.37	2	8	0
	2-5	15-30	50-78	7-20	1.10-1.40	4.00-14.00	0.12-0.17	0.1-2.9	0.5-2.0	.32	.37			
	5-36	2-20	5-35	60-85	1.10-1.30	0.42-1.40	0.09-0.12	6.0-8.9	0.5-1.0	.24	.32			
	36-80	---	---	---	---	0.00-0.11	---	---	---	---	---			
73231: Wasola-----	0-7	15-30	55-70	10-18	1.35-1.45	4.00-14.00	0.16-0.21	0.0-2.9	1.0-4.0	.32	.37	5	5	56
	7-22	10-25	50-70	18-35	1.30-1.45	4.00-14.00	0.14-0.21	0.0-2.9	0.2-1.0	.32	.43			
	22-30	10-35	35-55	20-35	1.25-1.40	0.42-1.40	0.02-0.08	0.0-2.9	0.1-1.0	.20	.28			
	30-80	10-40	20-55	27-60	1.25-1.40	1.40-4.00	0.04-0.14	6.0-8.9	0.1-1.0	.20	.28			
73232: Alred-----	0-3	20-30	52-75	5-18	1.20-1.40	4.00-14.00	0.13-0.18	0.1-2.9	2.0-8.0	.28	.43	4	8	0
	3-13	20-30	55-75	5-15	1.20-1.40	4.00-14.00	0.13-0.18	0.1-2.9	0.5-2.0	.28	.43			
	13-33	8-20	50-80	12-30	1.30-1.40	4.00-14.00	0.04-0.14	0.1-2.9	0.2-1.0	.32	.43			
	33-80	1-20	5-44	55-75	1.30-1.60	0.42-1.40	0.06-0.12	6.0-8.9	0.1-0.8	.28	.28			
Ocie-----	0-5	10-35	45-85	5-20	1.10-1.40	4.00-14.00	0.12-0.17	0.1-2.9	2.0-12	.32	.37	3	8	0
	5-11	10-35	45-85	5-20	1.10-1.35	4.00-14.00	0.12-0.15	0.1-2.9	0.5-2.0	.32	.43			
	11-24	5-25	40-75	20-35	1.10-1.35	4.00-14.00	0.12-0.15	0.1-2.9	0.1-1.0	.32	.43			
	24-56	2-10	4-33	65-86	1.10-1.30	0.42-1.40	0.07-0.10	6.0-8.9	0.1-1.0	.32	.32			
	56-80	---	---	---	---	0.00-0.11	---	---	---	---	---			
73233: Alred-----	0-3	20-30	52-75	5-18	1.20-1.40	4.00-14.00	0.13-0.18	0.1-2.9	2.0-8.0	.28	.43	4	8	0
	3-13	20-30	55-75	5-15	1.20-1.40	4.00-14.00	0.13-0.18	0.1-2.9	0.5-2.0	.28	.43			
	13-33	8-20	50-80	12-30	1.30-1.40	4.00-14.00	0.04-0.14	0.1-2.9	0.2-1.0	.32	.43			
	33-80	1-20	5-44	55-75	1.30-1.60	0.42-1.40	0.06-0.12	6.0-8.9	0.1-0.8	.28	.28			
Ocie-----	0-5	10-35	45-85	5-20	1.10-1.40	4.00-14.00	0.12-0.17	0.1-2.9	2.0-12	.32	.37	3	8	0
	5-11	10-35	45-85	5-20	1.10-1.35	4.00-14.00	0.12-0.15	0.1-2.9	0.5-2.0	.32	.43			
	11-24	5-25	40-75	20-35	1.10-1.35	4.00-14.00	0.12-0.15	0.1-2.9	0.1-1.0	.32	.43			
	24-56	2-10	4-33	65-86	1.10-1.30	0.42-1.40	0.07-0.10	6.0-8.9	0.1-1.0	.32	.32			
	56-80	---	---	---	---	0.00-0.11	---	---	---	---	---			
73234: Alred-----	0-4	10-55	35-80	6-18	1.20-1.45	4.00-14.00	0.09-0.13	0.1-2.9	1.0-4.0	.10	.28	4	8	0
	4-17	10-30	60-80	6-18	1.20-1.45	4.00-14.00	0.04-0.08	0.1-2.9	0.2-1.0	.10	.32			
	17-27	10-20	50-70	20-35	1.40-1.55	4.00-14.00	0.09-0.13	0.1-2.9	0.2-1.0	.10	.28			
	27-80	1-10	5-30	45-90	1.20-1.40	0.42-1.40	0.08-0.12	6.0-8.9	0.2-1.0	.24	.28			
Gatewood-----	0-2	15-30	50-75	10-20	1.10-1.40	4.00-14.00	0.06-0.12	0.1-2.9	1.0-4.0	.28	.37	2	8	0
	2-5	15-30	50-78	7-20	1.10-1.35	4.00-14.00	0.12-0.15	0.1-2.9	0.5-2.0	.10	.32			
	5-36	2-20	5-35	60-85	1.10-1.30	0.42-1.40	0.09-0.12	6.0-8.9	0.5-1.0	.24	.32			
	36-80	---	---	---	---	0.00-0.11	---	---	---	---	---			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
73235: Alred-----	0-4	10-40	50-80	6-27	1.20-1.45	4.00-14.00	0.09-0.13	0.1-2.9	1.0-4.0	.10	.28	4	8	0
	4-17	10-30	60-80	6-27	1.20-1.45	4.00-14.00	0.04-0.08	0.1-2.9	0.2-1.0	.10	.32			
	17-27	10-20	50-70	27-35	1.40-1.55	4.00-14.00	0.09-0.13	0.1-2.9	0.2-1.0	.10	.28			
	27-80	1-10	5-30	45-90	1.20-1.40	0.42-1.40	0.08-0.12	6.0-8.9	0.2-1.0	.24	.28			
73236: Scholten-----	0-7	17-33	54-74	9-13	1.20-1.40	12.00-42.00	0.07-0.19	0.1-2.9	1.0-3.0	.28	.37	4	8	0
	7-21	13-25	47-75	12-28	1.30-1.50	4.00-14.00	0.02-0.11	0.1-2.9	0.2-0.7	.32	.43			
	21-34	11-32	27-72	17-41	1.60-1.90	0.01-0.42	0.01-0.05	0.1-2.9	0.1-0.3	.32	.43			
	34-80	6-40	10-65	29-72	1.30-1.60	4.00-14.00	0.01-0.03	3.0-5.9	0.1-0.3	.20	.28			
Poynor-----	0-4	12-37	49-82	6-14	1.20-1.45	14.00-42.00	0.07-0.19	0.1-2.9	1.0-3.0	.28	.37	3	8	0
	4-10	12-37	49-82	6-14	1.25-1.45	14.00-42.00	0.07-0.19	0.1-2.9	0.7-2.0	.28	.43			
	10-28	5-38	27-85	10-35	1.40-1.55	4.00-14.00	0.11-0.18	0.1-2.9	0.2-1.0	.28	.43			
	28-80	2-41	10-50	45-86	1.50-1.65	4.00-14.00	0.08-0.12	3.0-5.9	0.1-0.9	.28	.28			
73237: Clarksville-----	0-3	20-45	55-75	4-27	1.20-1.40	14.00-42.00	0.07-0.12	0.1-2.9	0.5-2.0	.28	.37	3	8	0
	3-14	20-45	55-75	4-27	1.20-1.40	14.00-42.00	0.07-0.12	0.1-2.9	0.5-1.0	.37	.43			
	14-45	35-60	25-40	7-35	1.30-1.50	14.00-42.00	0.05-0.10	0.1-2.9	0.1-0.5	.32	.43			
	45-80	15-35	15-45	40-80	1.20-1.40	4.00-14.00	0.02-0.05	6.0-8.9	0.1-0.5	.20	.32			
73239: Rueter-----	0-3	20-45	55-75	4-27	1.20-1.40	14.00-42.00	0.07-0.12	0.1-2.9	0.5-2.0	.28	.37	3	8	0
	3-14	20-45	55-75	4-27	1.20-1.40	14.00-42.00	0.07-0.12	0.1-2.9	0.5-1.0	.37	.43			
	14-45	35-60	25-40	7-35	1.30-1.50	14.00-42.00	0.05-0.10	0.1-2.9	0.1-0.5	.32	.43			
	45-80	15-35	15-45	40-80	1.20-1.40	4.00-14.00	0.02-0.05	6.0-8.9	0.1-0.5	.20	.32			
Rock outcrop.														
73240: Jerktail-----	0-6	10-35	47-80	10-18	1.30-1.50	4.00-14.00	0.19-0.24	0.0-2.9	1.0-4.0	.37	.37	4	6	48
	6-14	8-35	25-72	20-40	1.30-1.50	4.00-14.00	0.11-0.20	3.0-5.9	0.4-1.0	.32	.43			
	14-21	4-30	10-61	35-60	1.10-1.40	1.40-4.00	0.08-0.18	6.0-8.9	0.2-0.7	.24	.37			
	21-63	2-15	5-48	50-80	1.10-1.40	0.42-1.40	0.03-0.10	6.0-8.9	0.2-0.5	.24	.32			
	63-80	---	---	---	---	0.00-0.11	---	---	---	---	---			
73242: Fanchon-----	0-5	20-40	50-70	5-15	1.35-1.45	4.00-14.00	0.18-0.24	0.0-2.9	1.0-3.0	.32	.37	5	5	56
	5-10	20-40	50-70	5-15	1.35-1.45	4.00-14.00	0.16-0.22	0.0-2.9	0.5-1.0	.32	.37			
	10-28	20-40	40-65	14-30	1.30-1.45	4.00-14.00	0.14-0.21	0.0-2.9	0.1-0.5	.32	.43			
	28-47	20-35	35-55	22-40	1.30-1.45	4.00-14.00	0.08-0.14	0.0-2.9	0.1-0.5	.28	.43			
	47-80	5-35	15-40	40-75	1.25-1.40	4.00-14.00	0.10-0.14	3.0-5.9	0.1-0.5	.20	.28			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
73242: Tonti-----	0-6	8-45	48-82	10-17	1.30-1.50	14.00-42.00	0.19-0.22	0.0-2.9	1.0-3.0	.37	.43	4	5	56
	6-22	8-40	23-77	15-37	1.30-1.50	4.00-14.00	0.12-0.18	0.0-2.9	0.3-1.0	.32	.37			
	22-35	10-50	20-78	12-30	1.60-1.90	0.01-0.42	0.02-0.04	0.0-2.9	0.1-0.4	.28	.37			
	35-80	2-25	5-60	38-75	1.20-1.40	4.00-14.00	0.03-0.11	3.0-5.9	0.0-0.4	.32	.32			
73243: Topazmill-----	0-9	35-52	28-50	6-18	1.40-1.50	4.00-14.00	0.14-0.22	0.0-2.9	1.0-4.0	.32	.32	5	3	86
	9-31	20-52	28-50	15-30	1.50-1.60	4.00-14.00	0.17-0.21	0.0-2.9	0.0-0.5	.43	.43			
	31-80	20-60	20-50	18-35	1.50-1.60	4.00-14.00	0.16-0.20	0.0-2.9	0.0-0.5	.37	.37			
73245: Alred-----	0-3	20-30	52-75	5-18	1.20-1.40	4.00-14.00	0.13-0.18	0.1-2.9	1.0-4.0	.28	.43	4	8	0
	3-13	20-30	55-75	5-15	1.20-1.40	4.00-14.00	0.13-0.18	0.1-2.9	0.5-2.0	.28	.43			
	13-33	8-20	50-80	12-30	1.30-1.40	4.00-14.00	0.04-0.14	0.1-2.9	0.2-1.0	.32	.43			
	33-80	1-20	5-44	55-75	1.30-1.60	0.42-1.40	0.06-0.12	6.0-8.9	0.1-0.8	.28	.28			
73246: Alred-----	0-3	20-30	52-75	5-18	1.20-1.40	4.00-14.00	0.13-0.18	0.1-2.9	1.0-4.0	.28	.43	4	8	0
	3-13	20-30	55-75	5-15	1.20-1.40	4.00-14.00	0.13-0.18	0.1-2.9	0.5-2.0	.28	.43			
	13-33	8-20	50-80	12-30	1.30-1.40	4.00-14.00	0.04-0.14	0.1-2.9	0.2-1.0	.32	.43			
	33-80	1-20	5-44	55-75	1.30-1.60	0.42-1.40	0.06-0.12	6.0-8.9	0.1-0.8	.28	.28			
73247: Alred-----	0-4	10-50	35-80	6-18	1.20-1.45	4.00-14.00	0.09-0.13	0.1-2.9	1.0-4.0	.10	.28	4	8	0
	4-17	10-30	60-80	6-18	1.20-1.45	4.00-14.00	0.04-0.08	0.1-2.9	0.2-1.0	.10	.32			
	17-27	10-20	50-70	20-35	1.40-1.55	4.00-14.00	0.09-0.13	0.1-2.9	0.2-1.0	.10	.28			
	27-80	1-10	5-30	45-90	1.20-1.40	0.42-1.40	0.08-0.12	6.0-8.9	0.2-1.0	.24	.28			
73248: Alred-----	0-4	10-55	35-80	6-18	1.20-1.45	4.00-14.00	0.09-0.13	0.1-2.9	1.0-4.0	.10	.28	4	8	0
	4-17	10-30	60-80	6-18	1.20-1.45	4.00-14.00	0.04-0.08	0.1-2.9	0.2-1.0	.10	.32			
	17-27	10-20	50-70	27-35	1.40-1.55	4.00-14.00	0.09-0.13	0.1-2.9	0.2-1.0	.10	.28			
	27-80	1-10	5-30	45-85	1.20-1.40	0.42-1.40	0.08-0.12	6.0-8.9	0.2-1.0	.24	.28			
Bendavis-----	0-5	10-30	60-80	5-15	1.20-1.40	14.00-42.00	0.09-0.13	0.1-2.9	1.0-3.0	.15	.37	2	5	56
	5-9	10-30	60-80	5-15	1.20-1.40	14.00-42.00	0.09-0.13	0.1-2.9	0.5-2.0	.15	.37			
	9-25	15-35	50-70	15-30	1.20-1.40	4.00-14.00	0.09-0.15	0.1-2.9	0.1-1.0	.15	.37			
	25-80	---	---	---	---	0.00-0.11	---	---	---	---	---			
73249: Alred-----	0-4	10-55	35-80	6-18	1.20-1.45	4.00-14.00	0.09-0.13	0.1-2.9	1.0-4.0	.10	.28	4	8	0
	4-17	10-30	60-80	6-18	1.20-1.45	4.00-14.00	0.04-0.08	0.1-2.9	0.2-1.0	.10	.32			
	17-27	10-20	50-70	27-35	1.40-1.55	4.00-14.00	0.09-0.13	0.1-2.9	0.2-1.0	.10	.28			
	27-80	1-10	5-30	45-90	1.20-1.40	0.42-1.40	0.08-0.12	6.0-8.9	0.2-0.5	.24	.28			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
73249: Ocie-----	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
	0-5	10-35	45-85	5-20	1.10-1.40	4.00-14.00	0.12-0.17	0.1-2.9	1.0-4.0	.32	.37	3	8	0
	5-11	10-35	45-85	5-20	1.10-1.35	4.00-14.00	0.12-0.15	0.1-2.9	0.5-2.0	.32	.43			
	11-24	5-25	40-75	20-35	1.10-1.35	4.00-14.00	0.12-0.15	0.1-2.9	0.1-1.0	.32	.43			
	24-56	2-10	4-33	65-86	1.10-1.30	0.42-1.40	0.07-0.10	6.0-8.9	0.1-1.0	.32	.32			
	56-80	---	---	---	---	0.00-0.11	---	---	---	---	---			
Bendavis-----	0-3	14-35	50-81	5-15	1.30-1.50	14.00-42.00	0.09-0.12	0.1-2.9	1.0-3.0	.15	.37	2	5	56
	3-14	15-35	47-77	8-18	1.30-1.50	14.00-42.00	0.13-0.17	0.1-2.9	0.5-1.5	.24	.37			
	14-34	12-30	43-78	10-30	1.30-1.50	4.00-14.00	0.13-0.17	0.1-2.9	0.1-0.8	.17	.37			
	34-80	---	---	---	---	0.00-0.11	---	---	---	---	---			
74626: Tanglenook-----	0-6	5-12	60-80	15-27	1.25-1.30	4.00-14.00	0.21-0.25	0.1-2.9	3.0-6.0	.37	.37	5	6	48
	6-17	5-12	48-80	15-40	1.30-1.40	1.40-4.00	0.18-0.21	3.0-5.9	2.0-4.0	.37	.37			
	17-30	1-25	15-54	35-60	1.40-1.45	0.42-1.40	0.10-0.13	6.0-8.9	0.5-2.0	.32	.32			
	30-56	1-25	15-54	35-60	1.40-1.45	0.42-1.40	0.10-0.13	6.0-8.9	0.5-2.0	.32	.32			
	56-80	1-25	15-54	35-60	1.40-1.45	0.42-1.40	0.10-0.13	6.0-8.9	0.5-2.0	.32	.32			
74657: Pomme-----	0-7	10-35	45-80	10-20	1.35-1.45	4.00-14.00	0.16-0.21	0.1-2.9	1.0-2.0	.32	.37	5	5	56
	7-19	5-35	35-77	18-35	1.30-1.45	4.00-14.00	0.14-0.21	0.1-2.9	0.2-1.0	.32	.43			
	19-57	5-35	25-67	27-40	1.30-1.45	4.00-14.00	0.08-0.14	0.1-2.9	0.1-1.0	.28	.43			
	57-80	5-15	10-50	45-75	1.25-1.40	4.00-14.00	0.04-0.14	3.0-5.9	0.1-1.0	.20	.28			
74658: Zanoni-----	0-7	30-75	20-60	7-12	1.30-1.50	14.00-42.00	0.09-0.22	0.0-2.9	1.0-4.0	.24	.24	4	3	86
	7-36	35-80	15-40	6-19	1.30-1.50	14.00-42.00	0.08-0.18	0.0-2.9	0.3-1.0	.24	.24			
	36-50	35-85	10-40	6-22	1.20-1.50	14.00-42.00	0.07-0.17	0.0-2.9	0.1-0.5	.17	.24			
	50-80	40-88	5-45	6-20	1.20-1.50	14.00-141.00	0.03-0.17	0.0-2.9	0.1-0.3	.10	.20			
75382: Cedargap-----	0-8	30-55	27-50	10-20	1.20-1.45	4.00-14.00	0.11-0.18	0.1-2.9	2.0-8.0	.24	.32	5	8	0
	8-46	30-55	15-55	15-32	1.30-1.50	4.00-14.00	0.10-0.15	0.1-2.9	2.0-6.0	.24	.32			
	46-80	30-55	15-50	18-35	1.40-1.55	4.00-14.00	0.04-0.12	0.1-2.9	0.5-3.0	.10	.43			
75390: Razort-----	0-7	15-35	50-75	9-20	1.35-1.60	4.00-14.00	0.20-0.22	0.0-2.9	1.0-4.0	.43	.43	5	5	56
	7-34	10-40	35-70	16-30	1.35-1.60	4.00-14.00	0.17-0.22	0.0-2.9	0.5-1.0	.32	.32			
	34-80	20-50	30-50	15-27	1.35-1.50	14.00-42.00	0.08-0.20	0.0-2.9	0.5-1.0	.32	.43			
75406: Racket-----	0-10	26-41	40-50	19-23	1.25-1.45	4.00-14.00	0.19-0.24	0.1-2.9	1.0-4.0	.32	.32	5	5	56
	10-30	13-37	39-53	14-27	1.25-1.45	4.00-14.00	0.19-0.24	3.0-5.9	1.0-3.0	.32	.32			
	30-45	31-60	31-50	20-24	1.25-1.45	4.00-42.00	0.04-0.24	3.0-5.9	0.3-1.0	.32	.32			
	45-80	45-90	4-19	3-20	1.35-1.55	14.00-42.00	0.01-0.14	0.1-2.9	0.2-0.5	.10	.17			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
75417:														
Relfe-----	0-6	48-80	15-45	4-15	1.10-1.50	14.00-42.00	0.05-0.09	0.0-2.9	1.0-4.0	.05	.05	5	8	0
	6-80	85-96	2-35	1-13	1.10-1.30	42.00-141.00	0.03-0.05	0.0-2.9	0.0-1.0	.02	.10			
Sandbur-----	0-8	55-75	20-45	5-18	1.30-1.50	14.00-42.00	0.09-0.17	0.1-2.9	1.0-4.0	.24	.24	5	3	86
	8-50	40-90	10-55	5-18	1.20-1.50	14.00-42.00	0.06-0.20	0.1-2.9	0.1-1.0	.28	.28			
	50-80	52-85	5-35	5-15	1.35-1.60	4.00-14.00	0.04-0.10	0.0-2.9	0.1-0.5	.05	.15			
75422:														
Secesh-----	0-8	25-45	30-80	15-25	1.10-1.30	4.00-14.00	0.16-0.20	0.0-2.9	1.0-2.0	.32	.32	5	5	56
	8-17	12-35	40-80	20-30	1.20-1.40	4.00-14.00	0.13-0.19	0.0-2.9	0.5-1.0	.32	.43			
	17-23	15-40	28-60	25-35	1.20-1.40	4.00-14.00	0.09-0.14	0.0-2.9	0.5-1.0	.32	.43			
	23-80	21-65	10-52	25-40	1.30-1.50	4.00-14.00	0.05-0.09	0.0-2.9	0.5-1.0	.24	.32			
75423:														
Cedargap-----	0-14	15-50	50-77	10-25	1.20-1.40	14.00-42.00	0.08-0.21	0.0-2.9	3.0-6.0	.32	.37	5	8	0
	14-24	27-65	8-44	10-36	1.20-1.40	14.00-42.00	0.03-0.14	0.0-2.9	1.0-6.0	.32	.37			
	24-49	27-80	8-44	10-36	1.30-1.50	14.00-42.00	0.03-0.12	0.0-2.9	0.5-3.0	.24	.32			
	49-80	28-65	9-30	20-55	1.40-1.55	14.00-42.00	0.05-0.14	0.0-2.9	0.1-0.5	.10	.32			
75424:														
Sandbur-----	0-8	55-75	20-45	5-18	1.30-1.50	14.00-42.00	0.09-0.17	0.1-2.9	1.0-5.0	.24	.24	5	3	86
	8-80	40-90	10-55	5-18	1.20-1.50	14.00-42.00	0.06-0.20	0.1-2.9	0.1-1.0	.28	.28			
99001. Water														
99002. Borrow areas														

Table 19.--Chemical Properties of the Soils

(Absence of an entry indicates that data were not estimated)

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction
	In	meq/100 g	meq/100 g	pH
70026:				
Tonti-----	0-8	5.0-15	4.0-10	4.5-6.5
	8-20	6.0-15	4.0-12	3.5-6.0
	20-34	5.0-14	5.0-15	3.5-5.5
	34-80	12-22	10-20	3.5-5.5
73000:				
Pomme-----	0-7	5.0-12	2.0-15	4.5-6.5
	7-19	8.0-16	3.0-15	4.5-6.5
	19-57	8.0-16	3.0-15	4.5-6.5
	57-80	10-30	5.0-20	4.5-7.3
73015:				
Viraton-----	0-3	5.0-15	3.0-10	4.5-7.3
	3-7	5.0-15	3.0-10	4.5-5.5
	7-23	10-20	8.0-18	3.5-5.5
	23-48	5.0-15	3.0-12	3.5-5.5
	48-80	10-20	8.0-18	3.5-5.5
73017:				
Bendavis-----	0-3	4.0-13	2.0-6.0	3.5-6.0
	3-14	4.0-15	2.0-7.0	4.5-6.0
	14-34	8.0-16	1.0-9.0	3.5-5.5
	34-80	---	---	---
Poynor-----	0-4	5.0-12	2.0-8.0	4.5-6.5
	4-10	2.0-8.0	2.0-8.0	4.5-6.0
	10-28	3.0-10	3.0-12	3.5-6.0
	28-80	15-25	12-25	3.5-5.5
73019:				
Poynor-----	0-4	8.0-18	3.0-9.0	3.5-6.5
	4-10	4.0-10	3.0-10	3.5-6.0
	10-28	5.0-15	3.0-12	3.5-6.0
	28-80	15-25	10-20	3.5-5.0
73023:				
Mano-----	0-3	5.0-15	4.0-9.0	4.5-6.5
	3-13	4.0-13	2.0-8.0	4.5-7.3
	13-33	5.0-12	3.0-10	4.5-6.5
	33-80	18-30	15-30	4.5-7.3
Ocie-----	0-5	10-18	4.0-12	4.5-6.5
	5-11	4.0-10	1.0-6.0	4.5-6.0
	11-24	6.0-12	3.0-10	4.5-6.0
	24-56	28-42	20-40	6.6-7.8
	56-80	---	---	---
73024:				
Mano-----	0-3	5.0-15	4.0-9.0	4.5-6.5
	3-13	4.0-13	2.0-8.0	4.5-7.3
	13-33	5.0-12	3.0-10	4.5-6.5
	33-80	18-30	15-30	4.5-7.3
Ocie-----	0-5	10-18	4.0-12	4.5-6.5
	5-11	4.0-10	1.0-6.0	4.5-6.0
	11-24	6.0-12	3.0-10	4.5-6.0
	24-56	28-42	20-40	6.6-7.8
	56-80	---	---	---



Table 19.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction
	In	meq/100 g	meq/100 g	pH
73069:				
Tick-----	0-5	5.5-11	1.7-4.6	4.5-6.5
	5-10	4.0-5.9	1.7-2.9	4.5-5.5
	10-18	4.4-8.5	3.5-7.9	4.5-5.5
	18-42	4.9-19	3.8-15	4.5-5.5
	42-80	3.1-15	2.2-12	4.5-5.5
73073:				
Scholten-----	0-7	4.3-8.8	2.0-4.0	4.5-6.5
	7-21	4.6-10	2.5-7.1	4.5-5.5
	21-34	6.1-11	3.9-7.5	4.5-5.5
	34-80	6.8-21	6.1-16	3.5-5.5
Poynor-----	0-4	3.0-10	3.0-8.0	4.5-6.5
	4-10	3.0-10	3.0-8.0	4.5-6.5
	10-28	3.0-10	3.0-8.0	4.5-6.5
	28-80	15-25	10-20	3.5-5.5
73076:				
Mano-----	0-3	5.0-15	4.0-9.0	4.5-6.5
	3-13	4.0-13	2.0-8.0	4.5-7.3
	13-33	5.0-12	3.0-10	4.5-6.5
	33-80	18-30	15-30	4.5-7.3
Ocie-----	0-5	10-18	4.0-12	4.5-6.5
	5-11	4.0-10	1.0-6.0	4.5-6.0
	11-24	6.0-12	3.0-10	4.5-6.0
	24-56	28-42	20-40	6.6-7.8
	56-80	---	---	---
73198:				
Gressy-----	0-7	5.0-12	3.0-7.0	5.1-7.3
	7-31	5.0-12	3.0-8.0	5.1-7.3
	31-49	5.0-12	4.0-13	4.5-6.0
	49-80	12-20	8.0-17	4.5-6.5
Viraton-----	0-3	5.0-15	3.0-10	4.5-7.3
	3-7	5.0-15	3.0-10	4.5-5.5
	7-23	10-20	8.0-18	3.5-5.5
	23-48	5.0-15	3.0-12	3.5-5.5
	48-80	10-20	8.0-18	3.5-5.5
73199:				
Moko-----	0-7	15-30	12-25	6.6-7.8
	7-12	15-30	12-25	6.6-7.8
	12-80	---	---	---
Rock outcrop.				
73220:				
Poynor-----	0-4	8.0-18	3.0-9.0	4.5-7.3
	4-10	4.0-10	3.0-10	4.5-6.5
	10-28	5.0-15	3.0-12	4.5-6.5
	28-80	15-25	10-20	4.5-6.5
73221:				
Poynor-----	0-4	5.0-12	2.0-8.0	4.5-6.5
	4-10	2.0-8.0	2.0-8.0	3.5-6.0
	10-28	3.0-10	3.0-12	3.5-6.0
	28-80	15-25	12-25	3.5-5.5

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction
	In	meq/100 g	meq/100 g	pH
73222: Splitlimb-----	0-10	8.0-12	4.0-12	4.5-6.5
	10-20	8.0-17	5.0-14	4.5-6.5
	20-29	7.0-17	4.0-13	4.5-5.5
	29-80	7.0-16	4.0-12	3.5-5.5
73223: Coulstone-----	0-1	10-40	5.0-30	3.5-6.5
	1-6	3.0-12	2.0-9.0	4.5-6.0
	6-29	2.0-10	1.0-5.0	4.5-6.0
	29-42	3.0-18	1.0-9.0	4.5-6.0
	42-80	4.0-18	1.0-9.0	3.5-5.5
Bender-----	0-1	10-40	5.0-30	3.5-6.5
	1-5	4.0-18	2.0-8.0	4.5-6.0
	5-21	2.0-8.0	1.0-5.0	4.5-6.0
	21-31	2.0-15	1.0-10	3.5-6.0
	31-80	---	---	---
73224: Moko-----	0-7	15-30	12-25	6.6-7.8
	7-12	15-30	12-25	6.6-7.8
	12-80	---	---	---
Rock outcrop.				
73225: Ocie-----	0-5	10-18	4.0-12	4.5-6.5
	5-11	4.0-10	1.0-6.0	4.5-6.0
	11-24	6.0-12	3.0-10	4.5-6.0
	24-56	28-42	20-40	5.1-7.3
	56-80	---	---	---
Gatewood-----	0-2	8.0-18	4.0-15	5.1-7.3
	2-5	3.0-10	4.0-12	5.1-7.3
	5-36	20-38	15-35	4.5-7.3
	36-80	---	---	---
73226: Ocie-----	0-5	10-18	4.0-12	4.5-6.5
	5-11	4.0-10	1.0-6.0	4.5-6.0
	11-24	6.0-12	3.0-10	4.5-6.0
	24-56	28-42	20-40	6.6-7.8
	56-80	---	---	---
Gatewood-----	0-2	8.0-18	4.0-15	5.1-7.3
	2-5	3.0-10	4.0-12	5.1-7.3
	5-36	20-38	15-35	6.6-7.8
	36-80	---	---	---
73227: Ocie-----	0-5	5.0-20	3.0-12	5.1-7.3
	5-11	4.0-12	1.0-6.0	5.1-7.3
	11-24	5.0-12	3.0-10	4.5-6.0
	24-56	20-30	15-30	6.6-7.8
	56-80	---	---	---
Gatewood-----	0-2	8.0-18	4.0-15	5.1-7.3
	2-5	3.0-10	4.0-12	5.1-6.5
	5-36	20-38	15-35	6.6-7.8
	36-80	---	---	---

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction
	In	meq/100 g	meq/100 g	pH
73228:				
Gatewood-----	0-2	8.0-18	4.0-15	5.1-7.3
	2-5	3.0-10	4.0-12	5.1-7.3
	5-36	20-38	15-35	4.5-7.3
	36-80	---	---	---
Moko-----	0-7	15-30	12-25	6.6-7.8
	7-12	15-30	12-25	6.6-7.8
	12-80	---	---	---
73229:				
Gatewood-----	0-2	8.0-18	4.0-15	5.1-7.3
	2-5	3.0-10	4.0-12	5.1-7.3
	5-36	20-38	15-35	4.5-7.3
	36-80	---	---	---
Moko-----	0-7	15-30	12-25	6.6-7.8
	7-12	15-30	12-25	6.6-7.8
	12-80	---	---	---
73230:				
Coulstone-----	0-1	10-40	5.0-30	3.5-6.5
	1-6	3.0-12	2.0-9.0	4.5-6.0
	6-29	2.0-10	1.0-5.0	4.5-6.0
	29-42	3.0-18	1.0-9.0	4.5-6.0
	42-80	4.0-18	1.0-9.0	3.5-5.5
Bender-----	0-1	10-40	5.0-30	3.5-6.5
	1-5	4.0-18	2.0-8.0	4.5-6.0
	5-21	2.0-5.0	1.0-15	4.5-6.0
	21-31	1.0-7.0	1.0-9.0	3.5-6.0
	31-80	---	---	---
Gatewood-----	0-2	8.0-18	4.0-15	5.1-7.3
	2-5	3.0-10	4.0-12	5.1-7.3
	5-36	20-38	15-35	6.6-7.8
	36-80	---	---	---
73231:				
Wasola-----	0-7	5.0-12	2.0-15	4.5-6.5
	7-22	8.0-16	3.0-15	4.5-6.5
	22-30	8.0-24	3.0-15	4.5-6.5
	30-80	10-30	5.0-20	4.5-7.3
73232:				
Alred-----	0-3	5.0-15	4.0-9.0	4.5-7.3
	3-13	4.0-13	2.0-8.0	4.5-7.3
	13-33	5.0-12	3.0-10	4.5-6.5
	33-80	18-30	15-30	4.5-7.3
Ocie-----	0-5	10-18	4.0-12	4.5-6.5
	5-11	4.0-10	1.0-6.0	4.5-6.0
	11-24	6.0-12	3.0-10	4.5-6.0
	24-56	28-42	20-40	5.1-7.3
	56-80	---	---	---
73233:				
Alred-----	0-3	5.0-15	4.0-9.0	4.5-7.3
	3-13	4.0-13	2.0-8.0	4.5-7.3
	13-33	5.0-12	3.0-10	4.5-6.5
	33-80	18-30	15-30	4.5-7.3

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction
	In	meq/100 g	meq/100 g	pH
73233: Ocie-----	0-5	10-18	4.0-12	4.5-6.5
	5-11	4.0-10	1.0-6.0	4.5-6.0
	11-24	6.0-12	3.0-10	4.5-6.0
	24-56	28-42	20-40	5.1-7.3
	56-80	---	---	---
73234: Alred-----	0-4	5.0-18	4.0-16	4.5-6.5
	4-17	5.0-12	3.0-10	4.5-6.5
	17-27	8.0-13	6.0-11	4.5-6.5
	27-80	18-30	15-30	4.5-7.3
Gatewood-----	0-2	8.0-18	4.0-15	5.1-7.3
	2-5	3.0-10	4.0-12	5.1-6.5
	5-36	20-38	15-35	6.6-7.8
	36-80	---	---	---
73235: Alred-----	0-4	5.0-18	4.0-16	4.5-6.5
	4-17	5.0-12	3.0-10	4.5-6.5
	17-27	8.0-13	6.0-11	4.5-6.5
	27-80	18-30	15-30	4.5-7.3
73236: Scholten-----	0-7	4.3-8.8	2.0-4.0	4.5-6.5
	7-21	4.6-10	2.5-7.1	4.5-5.5
	21-34	6.1-11	3.9-7.5	4.5-5.5
	34-80	6.8-21	6.1-16	3.5-5.5
Poynor-----	0-4	3.3-10	1.3-9.0	4.5-6.5
	4-10	3.3-10	1.3-9.0	4.5-6.5
	10-28	3.0-10	1.9-9.0	4.5-6.5
	28-80	7.4-28	5.0-23	3.5-5.5
73237: Clarksville-----	0-3	2.0-11	1.0-8.0	3.5-6.0
	3-14	4.0-10	1.0-6.0	3.5-6.0
	14-45	2.0-12	1.0-10	3.5-6.0
	45-80	10-32	7.0-29	5.5-6.5
73239: Rueter-----	0-3	2.0-11	1.0-8.0	3.5-6.0
	3-14	4.0-10	1.0-6.0	3.5-6.0
	14-45	2.0-12	1.0-10	3.5-6.0
	45-80	10-32	7.0-29	4.5-6.0
Rock outcrop.				
73240: Jerktail-----	0-6	7.0-12	3.0-10	4.5-6.5
	6-14	8.0-20	6.0-12	4.5-6.5
	14-21	15-35	12-30	5.6-7.3
	21-63	20-35	15-35	6.6-7.8
	63-80	---	---	---
73242: Fanchon-----	0-5	4.0-12	3.0-8.0	4.5-6.5
	5-10	4.0-12	3.0-12	4.5-6.5
	10-28	6.0-16	3.0-12	4.5-6.5
	28-47	8.0-16	5.0-15	4.5-6.5
	47-80	10-30	10-15	3.5-5.5

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction
	In	meq/100 g	meq/100 g	pH
73242: Tonti-----	0-6	5.0-9.0	3.0-8.0	4.5-6.5
	6-22	6.0-15	4.0-12	4.5-6.5
	22-35	5.0-18	4.0-12	4.5-5.5
	35-80	11-20	8.0-16	3.5-5.5
73243: Topazmill-----	0-9	5.0-15	3.0-12	5.6-7.3
	9-31	0.5-10	3.0-8.0	5.1-7.3
	31-80	0.5-10	3.0-8.0	4.5-5.5
73245: Alred-----	0-3	5.0-15	4.0-9.0	4.5-6.5
	3-13	4.0-13	2.0-8.0	4.5-6.5
	13-33	5.0-12	3.0-10	4.5-6.5
	33-80	18-30	15-30	4.5-7.3
73246: Alred-----	0-3	5.0-15	4.0-9.0	4.5-6.5
	3-13	4.0-13	2.0-8.0	4.5-6.5
	13-33	5.0-12	3.0-10	4.5-6.5
	33-80	18-30	15-30	4.5-7.3
73247: Alred-----	0-4	5.0-18	4.0-16	4.5-6.5
	4-17	5.0-12	3.0-10	4.5-6.5
	17-27	8.0-13	6.0-11	4.5-6.5
	27-80	18-30	15-30	4.5-7.3
73248: Alred-----	0-4	5.0-18	4.0-16	4.5-6.5
	4-17	5.0-12	3.0-10	4.5-6.5
	17-27	8.0-13	6.0-11	4.5-6.5
	27-80	15-30	12-25	4.5-7.3
Bendavis-----	0-5	3.0-10	2.0-8.0	4.5-6.0
	5-9	3.0-10	2.0-8.0	4.5-6.0
	9-25	3.0-10	2.0-8.0	3.5-5.5
	25-80	---	---	---
73249: Alred-----	0-4	5.0-18	4.0-16	4.5-6.5
	4-17	5.0-12	3.0-10	4.5-6.5
	17-27	8.0-13	6.0-11	4.5-6.5
	27-80	15-30	12-25	4.5-7.3
Ocie-----	0-5	10-18	4.0-12	4.5-6.5
	5-11	4.0-10	1.0-6.0	4.5-6.0
	11-24	6.0-12	3.0-10	4.5-6.0
	24-56	28-42	20-40	6.6-7.8
	56-80	---	---	---
Bendavis-----	0-3	4.0-13	0.0-9.0	4.5-6.5
	3-14	3.0-6.0	0.0-4.0	4.5-6.0
	14-34	3.0-6.0	0.0-4.0	3.5-5.5
	34-80	---	---	---

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction
	In	meq/100 g	meq/100 g	pH
74626: Tanglenook-----	0-6	15-35	8.0-20	6.1-7.3
	6-17	14-35	8.0-20	6.1-7.3
	17-30	14-40	15-35	6.1-7.3
	30-56	14-40	15-35	6.1-7.3
	56-80	20-40	15-35	6.6-7.3
74657: Pomme-----	0-7	5.0-12	2.0-15	5.6-7.3
	7-19	8.0-16	3.0-15	5.6-7.3
	19-57	8.0-16	3.0-15	5.1-7.3
	57-80	10-30	5.0-20	4.5-7.3
74658: Zanoni-----	0-7	3.0-12	0.0-10	4.5-7.3
	7-36	2.0-10	0.0-8.0	5.1-7.3
	36-50	2.0-10	0.0-8.0	5.1-7.3
	50-80	2.0-12	0.0-8.0	5.1-7.3
75382: Cedargap-----	0-8	8.0-22	3.0-20	5.6-7.8
	8-46	8.0-16	5.0-15	5.6-7.8
	46-80	8.0-20	7.0-20	5.6-7.8
75390: Razort-----	0-7	6.0-25	6.0-27	6.1-7.3
	7-34	5.0-20	5.0-20	5.6-7.3
	34-80	5.0-20	5.0-20	5.6-7.3
75406: Racket-----	0-10	13-17	8.0-14	6.1-7.3
	10-30	11-16	8.0-16	6.1-7.8
	30-45	9.0-14	8.0-16	6.1-7.8
	45-80	2.0-8.0	3.0-10	5.6-7.8
75417: Relfe-----	0-6	6.4-12	3.9-10	5.1-7.3
	6-80	1.5-6.3	0.5-4.3	5.1-7.3
Sandbur-----	0-8	4.0-10	2.0-10	5.6-7.3
	8-50	5.0-8.0	2.0-8.0	5.6-7.3
	50-80	2.0-10	0.5-5.0	5.1-6.5
75422: Secesh-----	0-8	8.0-14	10-16	5.6-7.3
	8-17	8.0-14	10-16	5.1-6.5
	17-23	8.0-14	12-18	5.1-6.0
	23-80	8.0-14	12-18	5.1-6.0
75423: Cedargap-----	0-14	6.0-22	0.0-17	5.1-7.3
	14-24	5.0-25	0.0-20	5.1-7.3
	24-49	5.0-25	0.0-20	5.1-7.3
	49-80	4.0-23	0.0-19	6.6-7.8
75424: Sandbur-----	0-8	4.0-10	2.0-10	5.5-7.3
	8-80	5.0-8.0	2.0-8.0	5.5-7.3
99001. Water				

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction
	In	meq/100 g	meq/100 g	pH
99002. Borrow areas				



Table 20.--Water Features

(See text for definitions of terms used in this table. Estimates of the frequency of ponding and flooding apply to the whole year rather than to individual months. Absence of an entry indicates that the feature is not a concern or that data were not estimated)

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
70026: Tonti-----	C	Low	January	1.5-2.5	2.5-3.5	---	---	None	---	None
			February	1.5-2.5	2.5-3.5	---	---	None	---	None
			March	1.5-2.5	2.5-3.5	---	---	None	---	None
			April	1.5-2.5	2.5-3.5	---	---	None	---	None
			December	1.5-2.5	2.5-3.5	---	---	None	---	None
73000: Pomme-----	B	Medium	Jan-Dec	---	---	---	---	None	---	None
73015: Viraton-----	C	Low	January	0.5-1.1	1.3-3.4	---	---	None	---	None
			February	1.5-2.0	2.0-3.0	---	---	None	---	None
			March	1.5-2.0	2.0-3.0	---	---	None	---	None
			April	1.5-2.0	2.0-3.0	---	---	None	---	None
			November	1.5-2.0	2.0-3.0	---	---	None	---	None
			December	1.5-2.0	2.0-3.0	---	---	None	---	None
73017: Bendavis-----	C	Very high	January	2.0-3.0	2.3-3.4	---	---	None	---	None
			February	2.0-3.0	2.3-3.4	---	---	None	---	None
			December	2.0-3.0	2.3-3.4	---	---	None	---	None
Poynor-----	B	Very high	Jan-Dec	---	---	---	---	None	---	None
73019: Poynor-----	B	Medium	Jan-Dec	---	---	---	---	None	---	None

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Surface water depth	Ponding		Flooding	
				Upper limit	Lower limit		Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
73023: Mano-----	C	Medium	January	2.0-3.0	>6.0	---	---	None	---	None
			February	2.0-3.0	>6.0	---	---	None	---	None
			March	2.0-3.0	>6.0	---	---	None	---	None
			April	2.0-3.0	>6.0	---	---	None	---	None
			December	2.0-3.0	>6.0	---	---	None	---	None
Ocie-----	C	Medium	January	2.0-3.0	3.3-5.0	---	---	None	---	None
			February	2.0-3.0	3.3-5.0	---	---	None	---	None
			March	2.0-3.0	3.3-5.0	---	---	None	---	None
			April	2.0-3.0	3.3-5.0	---	---	None	---	None
			December	2.0-3.0	3.3-5.0	---	---	None	---	None
73024: Mano-----	C	High	January	2.0-3.0	>6.0	---	---	None	---	None
			February	2.0-3.0	>6.0	---	---	None	---	None
			March	2.0-3.0	>6.0	---	---	None	---	None
			April	2.0-3.0	>6.0	---	---	None	---	None
			December	2.0-3.0	>6.0	---	---	None	---	None
Ocie-----	C	High	January	2.0-3.0	3.3-5.0	---	---	None	---	None
			February	2.0-3.0	3.3-5.0	---	---	None	---	None
			March	2.0-3.0	3.3-5.0	---	---	None	---	None
			April	2.0-3.0	3.3-5.0	---	---	None	---	None
			December	2.0-3.0	3.3-5.0	---	---	None	---	None
73069: Tick-----	C	Very high	Jan-Dec	---	---	---	---	None	---	None
73073: Scholten-----	C	High	January	1.3-2.2	1.5-2.3	---	---	None	---	None
			February	1.3-2.2	1.5-2.3	---	---	None	---	None
			March	1.3-2.2	1.5-2.3	---	---	None	---	None
			April	1.3-2.2	1.5-2.3	---	---	None	---	None
			December	1.3-2.2	1.5-2.3	---	---	None	---	None
Poynor-----	B	High	Jan-Dec	---	---	---	---	None	---	None

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Surface water depth	Ponding		Flooding	
				Upper limit	Lower limit		Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
73076: Mano-----	C	Very high	January	2.0-3.0	>6.0	---	---	None	---	None
			February	2.0-3.0	>6.0	---	---	None	---	None
			March	2.0-3.0	>6.0	---	---	None	---	None
			April	2.0-3.0	>6.0	---	---	None	---	None
			December	2.0-3.0	>6.0	---	---	None	---	None
Ocie-----	C	Very high	January	2.0-3.0	3.3-5.0	---	---	None	---	None
			February	2.0-3.0	3.3-5.0	---	---	None	---	None
			March	2.0-3.0	3.3-5.0	---	---	None	---	None
			April	2.0-3.0	3.3-5.0	---	---	None	---	None
			December	2.0-3.0	3.3-5.0	---	---	None	---	None
73198: Gressy-----	B	Medium	Jan-Dec	---	---	---	---	None	---	None
Viraton-----	C	Medium	January	1.5-2.5	2.5-3.5	---	---	None	---	None
			February	1.5-2.5	2.5-3.5	---	---	None	---	None
			March	1.5-2.5	2.5-3.5	---	---	None	---	None
			April	1.5-2.5	2.5-3.5	---	---	None	---	None
			December	1.5-2.5	2.5-3.5	---	---	None	---	None
73199: Moko-----	D	Very high	Jan-Dec	---	---	---	---	None	---	None
Rock outcrop.										
73220: Poynor-----	B	High	Jan-Dec	---	---	---	---	None	---	None
73221: Poynor-----	B	Very high	Jan-Dec	---	---	---	---	None	---	None

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
73222: Splitlimb-----	C	Negligible	January	1.0-1.7	>6.0	0.0-0.5	Brief	Frequent	---	None
			February	1.0-1.7	>6.0	0.0-0.5	Brief	Frequent	---	None
			March	1.0-1.7	>6.0	0.0-0.5	Brief	Frequent	---	None
			April	1.0-1.7	>6.0	0.0-0.5	Brief	Frequent	---	None
			May	---	---	0.0-0.5	Brief	Frequent	---	None
			June	---	---	0.0-0.5	Very brief	Occasional	---	None
			July	---	---	0.0-0.5	Very brief	Rare	---	None
			August	---	---	0.0-0.5	Very brief	Rare	---	None
			September	---	---	0.0-0.5	Very brief	Rare	---	None
			October	---	---	0.0-0.5	Very brief	Occasional	---	None
			November	---	---	0.0-0.5	Brief	Frequent	---	None
			December	1.0-1.7	>6.0	0.0-0.5	Brief	Frequent	---	None
73223: Coulstone-----	B	Very high	Jan-Dec	---	---	---	---	None	---	None
Bender-----	B	Very high	Jan-Dec	---	---	---	---	None	---	None
73224: Moko-----	D	Very high	Jan-Dec	---	---	---	---	None	---	None
Rock outcrop.										
73225: Ocie-----	C	High	January	2.0-3.0	3.3-5.0	---	---	None	---	None
			February	2.0-3.0	3.3-5.0	---	---	None	---	None
			March	2.0-3.0	3.3-5.0	---	---	None	---	None
			December	2.0-3.0	3.3-5.0	---	---	None	---	None
Gatewood-----	C	High	January	1.5-3.0	1.7-3.3	---	---	None	---	None
			February	1.5-3.0	1.7-3.3	---	---	None	---	None
			March	1.5-3.0	1.7-3.3	---	---	None	---	None
			April	1.5-3.0	5.9-5.9	---	---	None	---	None
			December	1.5-3.0	1.7-3.3	---	---	None	---	None

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
73226: Ocie-----	C	High	January	2.0-3.0	3.3-5.0	---	---	None	---	None
			February	2.0-3.0	3.3-5.0	---	---	None	---	None
			March	2.0-3.0	3.3-5.0	---	---	None	---	None
			April	2.0-3.0	3.3-5.0	---	---	None	---	None
			December	2.0-3.0	3.3-5.0	---	---	None	---	None
Gatewood-----	C	Very high	January	1.5-3.0	1.7-3.3	---	---	None	---	None
			February	1.5-3.0	1.7-3.3	---	---	None	---	None
			March	1.5-3.0	1.7-3.3	---	---	None	---	None
			April	1.5-3.0	1.7-3.3	---	---	None	---	None
			December	1.5-3.0	1.7-3.3	---	---	None	---	None
73227: Ocie-----	C	Very high	January	2.0-3.0	3.3-5.0	---	---	None	---	None
			February	2.0-3.0	3.3-5.0	---	---	None	---	None
			March	2.0-3.0	3.3-5.0	---	---	None	---	None
			April	2.0-3.0	3.3-5.0	---	---	None	---	None
			December	2.0-3.0	3.3-5.0	---	---	None	---	None
Gatewood-----	C	Very high	January	1.5-3.0	1.7-3.3	---	---	None	---	None
			February	1.5-3.0	1.7-3.3	---	---	None	---	None
			March	1.5-3.0	1.7-3.3	---	---	None	---	None
			April	1.5-3.0	1.7-3.3	---	---	None	---	None
			December	1.5-3.0	1.7-3.3	---	---	None	---	None
73228: Gatewood-----	C	High	January	1.5-3.0	1.7-3.3	---	---	None	---	None
			February	1.5-3.0	1.7-3.3	---	---	None	---	None
			March	1.5-3.0	1.7-3.3	---	---	None	---	None
			April	1.5-3.0	5.9-5.9	---	---	None	---	None
			December	1.5-3.0	1.7-3.3	---	---	None	---	None
Moko-----	D	High	Jan-Dec	---	---	---	---	None	---	None

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Surface water depth	Ponding		Flooding	
				Upper limit	Lower limit		Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
73229:										
Gatewood-----	C	Very high	January	1.5-3.0	1.7-3.3	---	---	None	---	None
			February	1.5-3.0	1.7-3.3	---	---	None	---	None
			March	1.5-3.0	1.7-3.3	---	---	None	---	None
			April	1.5-3.0	5.9-5.9	---	---	None	---	None
			December	1.5-3.0	1.7-3.3	---	---	None	---	None
Moko-----	D	Very high	Jan-Dec	---	---	---	---	None	---	None
73230:										
Coulstone-----	B	Very high	Jan-Dec	---	---	---	---	None	---	None
Bender-----	B	Very high	Jan-Dec	---	---	---	---	None	---	None
Gatewood-----	C	Very high	January	1.5-3.0	1.7-3.3	---	---	None	---	None
			February	1.5-3.0	1.7-3.3	---	---	None	---	None
			March	1.5-3.0	1.7-3.3	---	---	None	---	None
			April	1.5-3.0	1.7-3.3	---	---	None	---	None
			December	1.5-3.0	1.7-3.3	---	---	None	---	None
73231:										
Wasola-----	B	Medium	January	1.5-2.5	>6.0	---	---	None	---	None
			February	1.5-2.5	>6.0	---	---	None	---	None
			March	1.5-2.5	>6.0	---	---	None	---	None
			April	1.5-2.5	>6.0	---	---	None	---	None
			December	1.5-2.5	>6.0	---	---	None	---	None
73232:										
Alred-----	C	Medium	Jan-Dec	---	---	---	---	None	---	None
Ocie-----	C	Medium	January	2.0-3.0	3.3-5.0	---	---	None	---	None
			February	2.0-3.0	3.3-5.0	---	---	None	---	None
			March	2.0-3.0	3.3-5.0	---	---	None	---	None
			December	2.0-3.0	3.3-5.0	---	---	None	---	None

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
73233: Alred-----	C	High	Jan-Dec	---	---	---	---	None	---	None
Ocie-----	C	High	January	2.0-3.0	3.3-5.0	---	---	None	---	None
			February	2.0-3.0	3.3-5.0	---	---	None	---	None
			March	2.0-3.0	3.3-5.0	---	---	None	---	None
			December	2.0-3.0	3.3-5.0	---	---	None	---	None
73234: Alred-----	B	Very high	Jan-Dec	---	---	---	---	None	---	None
Gatewood-----	C	Very high	January	1.5-3.0	1.7-3.3	---	---	None	---	None
			February	1.5-3.0	1.7-3.3	---	---	None	---	None
			March	1.5-3.0	1.7-3.3	---	---	None	---	None
			April	1.5-3.0	1.7-3.3	---	---	None	---	None
			December	1.5-3.0	1.7-3.3	---	---	None	---	None
73235: Alred-----	B	Very high	Jan-Dec	---	---	---	---	None	---	None
73236: Scholten-----	C	Medium	January	1.3-2.2	1.5-2.3	---	---	None	---	None
			February	1.3-2.2	1.5-2.3	---	---	None	---	None
			March	1.3-2.2	1.5-2.3	---	---	None	---	None
			April	1.3-2.2	1.5-2.3	---	---	None	---	None
			December	1.3-2.2	1.5-2.3	---	---	None	---	None
Poynor-----	B	Medium	Jan-Dec	---	---	---	---	None	---	None
73237: Clarksville-----	B	High	Jan-Dec	---	---	---	---	None	---	None
73239: Rueter-----	B	Medium	Jan-Dec	---	---	---	---	None	---	None
Rock outcrop.										



Table 20.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Surface water depth	Ponding		Flooding	
				Upper limit	Lower limit		Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
73240: Jerktail-----	C	Medium	January	1.5-2.5	>6.0	---	---	None	---	None
			February	1.5-2.5	>6.0	---	---	None	---	None
			March	1.5-2.5	>6.0	---	---	None	---	None
			April	1.5-2.5	>6.0	---	---	None	---	None
			December	1.5-2.5	>6.0	---	---	None	---	None
73242: Fanchon-----	B	Medium	Jan-Dec	---	---	---	---	None	---	None
Tonti-----	C	Medium	January	1.1-2.3	1.3-2.5	---	---	None	---	None
			February	1.1-2.3	1.3-2.5	---	---	None	---	None
			March	1.1-2.3	1.3-2.5	---	---	None	---	None
			April	1.1-2.3	1.3-2.5	---	---	None	---	None
			December	1.1-2.3	1.3-2.5	---	---	None	---	None
73243: Topazmill-----	B	Medium	Jan-Dec	---	---	---	---	None	---	None
73245: Alred-----	C	Medium	Jan-Dec	---	---	---	---	None	---	None
73246: Alred-----	C	High	Jan-Dec	---	---	---	---	None	---	None
73247: Alred-----	B	Very high	Jan-Dec	---	---	---	---	None	---	None
73248: Alred-----	B	High	Jan-Dec	---	---	---	---	None	---	None
Bendavis-----	C	High	January	2.0-3.0	2.3-3.4	---	---	None	---	None
			February	2.0-3.0	2.3-3.4	---	---	None	---	None
			December	2.0-3.0	2.3-3.4	---	---	None	---	None

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Surface water depth	Ponding		Flooding	
				Upper limit	Lower limit		Duration	Frequency	Duration	Frequency
73249: Alred-----	B	Very high	Jan-Dec	---	---	---	---	None	---	None
Ocie-----	C	Very high	January	2.0-3.0	3.3-5.0	---	---	None	---	None
			February	2.0-3.0	3.3-5.0	---	---	None	---	None
			March	2.0-3.0	3.3-5.0	---	---	None	---	None
			April	2.0-3.0	3.3-5.0	---	---	None	---	None
			December	2.0-3.0	3.3-5.0	---	---	None	---	None
Bendavis-----	C	Very high	January	2.0-3.0	2.3-3.4	---	---	None	---	None
			February	2.0-3.0	2.3-3.4	---	---	None	---	None
			December	2.0-3.0	2.3-3.4	---	---	None	---	None
74626: Tanglenook-----	D	Very low	January	0.0-1.5	>6.0	---	---	None	Very brief	Rare
			February	0.0-1.5	>6.0	---	---	None	Very brief	Rare
			March	0.0-1.5	>6.0	---	---	None	Very brief	Rare
			April	0.0-1.5	>6.0	---	---	None	Very brief	Rare
			May	0.0-1.5	>6.0	---	---	None	Very brief	Rare
			June	---	---	---	---	None	Very brief	Very rare
			July	---	---	---	---	None	Very brief	Very rare
			August	---	---	---	---	None	Very brief	Very rare
			September	---	---	---	---	None	Very brief	Very rare
			October	---	---	---	---	None	Very brief	Very rare
			November	0.0-1.5	>6.0	---	---	None	Very brief	Rare
			December	0.0-1.5	>6.0	---	---	None	Very brief	Rare
74657: Pomme-----	B	Medium	Jan-Dec	---	---	---	---	None	---	None

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
74658: Zanoni-----	B	Low		Ft	Ft	Ft				
			January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Rare
			March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Very brief	Rare
			June	---	---	---	---	None	Very brief	Very rare
			July	---	---	---	---	None	Very brief	Very rare
			August	---	---	---	---	None	Very brief	Very rare
			September	---	---	---	---	None	Very brief	Very rare
			October	---	---	---	---	None	Very brief	Very rare
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare
75382: Cedargap-----	B	Negligible								
			January	4.0-6.0	>6.0	---	---	None	Very brief	Frequent
			February	4.0-6.0	>6.0	---	---	None	Very brief	Frequent
			March	4.0-6.0	>6.0	---	---	None	Very brief	Frequent
			April	---	---	---	---	None	Very brief	Frequent
			May	---	---	---	---	None	Very brief	Occasional
			June	---	---	---	---	None	Very brief	Rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Occasional
			November	---	---	---	---	None	Very brief	Frequent
			December	4.0-6.0	>6.0	---	---	None	Very brief	Frequent

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
75390: Razort-----	B	Low		Ft	Ft	Ft				
			January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Rare
			March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Very brief	Rare
			June	---	---	---	---	None	Very brief	Very rare
			July	---	---	---	---	None	Very brief	Very rare
			August	---	---	---	---	None	Very brief	Very rare
			September	---	---	---	---	None	Very brief	Very rare
			October	---	---	---	---	None	Very brief	Very rare
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare
75406: Racket-----	B	Negligible								
			January	4.0-6.0	>6.0	---	---	None	Very brief	Frequent
			February	4.0-6.0	>6.0	---	---	None	Very brief	Frequent
			March	4.0-6.0	>6.0	---	---	None	Very brief	Frequent
			April	---	---	---	---	None	Very brief	Frequent
			May	---	---	---	---	None	Very brief	Occasional
			June	---	---	---	---	None	Very brief	Rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Occasional
			November	---	---	---	---	None	Very brief	Frequent
			December	4.0-6.0	>6.0	---	---	None	Very brief	Frequent
75417: Relfe-----	A	Negligible								
			January	---	---	---	---	None	Very brief	Frequent
			February	---	---	---	---	None	Very brief	Frequent
			March	---	---	---	---	None	Very brief	Frequent
			April	---	---	---	---	None	Very brief	Frequent
			May	---	---	---	---	None	Very brief	Occasional
			June	---	---	---	---	None	Very brief	Rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Occasional
			December	---	---	---	---	None	Very brief	Frequent

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
75417: Sandbur-----	A	Negligible		Ft	Ft	Ft				
			January	---	---	---	---	None	Very brief	Frequent
			February	---	---	---	---	None	Very brief	Frequent
			March	---	---	---	---	None	Very brief	Frequent
			April	---	---	---	---	None	Very brief	Frequent
			May	---	---	---	---	None	Very brief	Occasional
			June	---	---	---	---	None	Very brief	Rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Occasional
			December	---	---	---	---	None	Very brief	Frequent
75422: Secesh-----	B	Negligible								
			January	---	---	---	---	None	Very brief	Occasional
			February	---	---	---	---	None	Very brief	Occasional
			March	---	---	---	---	None	Very brief	Occasional
			April	---	---	---	---	None	Very brief	Occasional
			May	---	---	---	---	None	Very brief	Occasional
			June	---	---	---	---	None	Very brief	Rare
			July	---	---	---	---	None	Very brief	Very rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Occasional
			October	---	---	---	---	None	Very brief	Occasional
			November	---	---	---	---	None	Very brief	Occasional
			December	---	---	---	---	None	Very brief	Occasional
75423: Cedargap-----	B	Negligible								
			January	---	---	---	---	None	Very brief	Occasional
			February	---	---	---	---	None	Very brief	Occasional
			March	---	---	---	---	None	Very brief	Occasional
			April	---	---	---	---	None	Very brief	Occasional
			May	---	---	---	---	None	Very brief	Occasional
			June	---	---	---	---	None	Very brief	Rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Occasional
			December	---	---	---	---	None	Very brief	Occasional

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
75424: Sandbur-----	A	Negligible		Ft	Ft	Ft				
			January	---	---	---	---	None	Very brief	Frequent
			February	---	---	---	---	None	Very brief	Frequent
			March	---	---	---	---	None	Very brief	Frequent
			April	---	---	---	---	None	Very brief	Frequent
			May	---	---	---	---	None	Very brief	Occasional
			June	---	---	---	---	None	Very brief	Rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Occasional
			October	---	---	---	---	None	Very brief	Occasional
			November	---	---	---	---	None	Very brief	Occasional
			December	---	---	---	---	None	Very brief	Frequent
99001. Water										
99002. Borrow areas										

Table 21.--Soil Features

(See text for definitions of terms used in this table. Absence of an entry indicates that the feature is not a concern or that data were not estimated)

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
		In	In				
70026: Tonti-----	Fragipan	13-25	10-36	Noncemented	Moderate	High	High
73000: Pomme-----	---	---	---	---	Moderate	Moderate	Moderate
73015: Viraton-----	Fragipan	16-41	10-30	Noncemented	Moderate	Moderate	High
73017: Bendavis-----	Bedrock (lithic)	20-40	---	Indurated	Moderate	Moderate	High
Poynor-----	Strongly contrasting textural stratification	15-39	41-65	Noncemented	Moderate	Moderate	High
73019: Poynor-----	Strongly contrasting textural stratification	15-39	41-65	Noncemented	Moderate	Moderate	High
73023: Mano-----	Strongly contrasting textural stratification	15-39	41-65	Noncemented	Moderate	High	Moderate
Ocie-----	Strongly contrasting textural stratification	15-39	---	Noncemented	Moderate	High	Moderate
	Bedrock (lithic)	40-60	---	Indurated			
73024: Mano-----	Strongly contrasting textural stratification	15-39	41-65	Noncemented	Moderate	High	Moderate
Ocie-----	Strongly contrasting textural stratification	15-39	---	Noncemented	Moderate	High	Moderate
	Bedrock (lithic)	40-60	---	Indurated			
73069: Tick-----	Dense material	22-66	14-58	Noncemented	Moderate	High	High
73073: Scholten-----	Fragipan	7-31	6-29	Noncemented	Moderate	High	High
Poynor-----	Strongly contrasting textural stratification	15-39	41-65	Noncemented	Moderate	High	High



Table 21.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
		In	In				
73076: Mano-----	Strongly contrasting textural stratification	15-39	41-65	Noncemented	Moderate	High	Moderate
Ocie-----	Strongly contrasting textural stratification	15-39	---	Noncemented	Moderate	High	Moderate
	Bedrock (lithic)	40-60	---	Indurated			
73198: Gressy-----	---	---	---	---	Moderate	Low	Moderate
Viraton-----	Fragipan	16-41	10-30	Noncemented	Moderate	Moderate	High
73199: Moko-----	Bedrock (lithic)	6-20	60-76	Indurated	Moderate	Low	Low
Rock outcrop.							
73220: Poynor-----	Strongly contrasting textural stratification	15-39	41-65	Noncemented	Moderate	Moderate	High
73221: Poynor-----	Strongly contrasting textural stratification	15-39	41-65	Noncemented	Moderate	Moderate	High
73222: Splitlimb-----	---	---	---	---	High	High	Moderate
73223: Coulstone-----	---	---	---	---	Moderate	Low	High
Bender-----	Bedrock (lithic)	20-39	41-61	Indurated	Moderate	Low	High
73224: Moko-----	Bedrock (lithic)	6-20	60-76	Indurated	Moderate	Low	Low
Rock outcrop.							
73225: Ocie-----	Strongly contrasting textural stratification	15-39	---	Noncemented	Moderate	High	Moderate
	Bedrock (lithic)	40-60	---	Indurated			
Gatewood-----	Bedrock (lithic)	20-40	---	Indurated	Moderate	High	Moderate
73226: Ocie-----	Bedrock (lithic)	40-60	---	Indurated	Moderate	High	Moderate
Gatewood-----	Bedrock (lithic)	20-40	---	Indurated	Moderate	High	Moderate

Table 21.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
		In	In				
73227: Ocie-----	Bedrock (lithic)	40-60	---	Indurated	Moderate	High	Moderate
Gatewood-----	Bedrock (lithic)	20-40	---	Indurated	Moderate	High	Moderate
73228: Gatewood-----	Bedrock (lithic)	20-40	---	Indurated	Moderate	High	Moderate
Moko-----	Bedrock (lithic)	6-20	60-76	Indurated	Moderate	Low	Low
73229: Gatewood-----	Bedrock (lithic)	20-40	---	Indurated	Moderate	High	Moderate
Moko-----	Bedrock (lithic)	6-20	60-76	Indurated	Moderate	Low	Low
73230: Coulstone-----	---	---	---	---	Moderate	Low	High
Bender-----	Bedrock (lithic)	20-39	41-61	Indurated	Moderate	Low	High
Gatewood-----	Bedrock (lithic)	20-40	---	Indurated	Moderate	High	Moderate
73231: Wasola-----	---	---	---	---	Low	Moderate	Moderate
73232: Alred-----	Strongly contrasting textural stratification	15-39	41-65	Noncemented	Moderate	High	Moderate
Ocie-----	Strongly contrasting textural stratification	15-39	---	Noncemented	Moderate	High	Moderate
	Bedrock (lithic)	40-60	---	Indurated			
73233: Alred-----	Strongly contrasting textural stratification	15-39	41-65	Noncemented	Moderate	High	Moderate
Ocie-----	Strongly contrasting textural stratification	15-39	---	Noncemented	Moderate	High	Moderate
	Bedrock (lithic)	40-60	---	Indurated			
73234: Alred-----	Strongly contrasting textural stratification	15-39	41-65	Noncemented	Moderate	Moderate	High
Gatewood-----	Bedrock (lithic)	20-40	---	Indurated	Moderate	High	Moderate

Table 21.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
		In	In				
73235: Alred-----	Strongly contrasting textural stratification	15-39	41-65	Noncemented	Moderate	Moderate	High
73236: Scholten-----	Fragipan	7-31	6-29	Noncemented	None	Moderate	High
Poynor-----	Strongly contrasting textural stratification	15-39	41-65	Noncemented	None	Moderate	High
73237: Clarksville-----	---	---	---	---	Moderate	Low	High
73239: Rueter-----	---	---	---	---	Moderate	Low	High
Rock outcrop.							
73240: Jerktail-----	Bedrock (lithic)	60-80	0-20	Indurated	Moderate	High	Low
73242: Fanchon-----	---	---	---	---	Low	Moderate	Moderate
Tonti-----	Fragipan	16-28	10-25	Noncemented	None	High	High
73243: Topazmill-----	---	---	---	---	Moderate	Moderate	High
73245: Alred-----	Strongly contrasting textural stratification	15-39	41-65	Noncemented	Moderate	High	Moderate
73246: Alred-----	Strongly contrasting textural stratification	15-39	41-65	Noncemented	Moderate	High	Moderate
73247: Alred-----	Strongly contrasting textural stratification	15-39	41-65	Noncemented	Moderate	Moderate	High
73248: Alred-----	Strongly contrasting textural stratification	15-39	41-65	Noncemented	Moderate	Moderate	High
Bendavis-----	Bedrock (lithic)	20-40	---	Indurated	Moderate	Moderate	High

Table 21.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
		In	In				
73249: Alred-----	Strongly contrasting textural stratification	15-39	41-65	Noncemented	Moderate	Moderate	High
Ocie-----	Strongly contrasting textural stratification	15-39	---	Noncemented	Moderate	High	Moderate
	Bedrock (lithic)	40-60	---	Indurated			
Bendavis-----	Bedrock (lithic)	20-40	---	Indurated	Moderate	Moderate	High
74626: Tanglenook-----	---	---	---	---	High	High	Moderate
74657: Pomme-----	---	---	---	---	Moderate	Moderate	Moderate
74658: Zanoni-----	---	---	---	---	Moderate	Low	Low
75382: Cedargap-----	---	---	---	---	Moderate	Low	Low
75390: Razort-----	---	---	---	---	None	Low	Low
75406: Racket-----	---	---	---	---	Moderate	Low	Moderate
75417: Relfe-----	---	---	---	---	Low	Low	Moderate
Sandbur-----	---	---	---	---	Moderate	Low	Low
75422: Secesh-----	---	---	---	---	Moderate	Low	Moderate
75423: Cedargap-----	---	---	---	---	Moderate	Low	Low
75424: Sandbur-----	---	---	---	---	Moderate	Low	Low
99001. Water							
99002. Borrow areas							

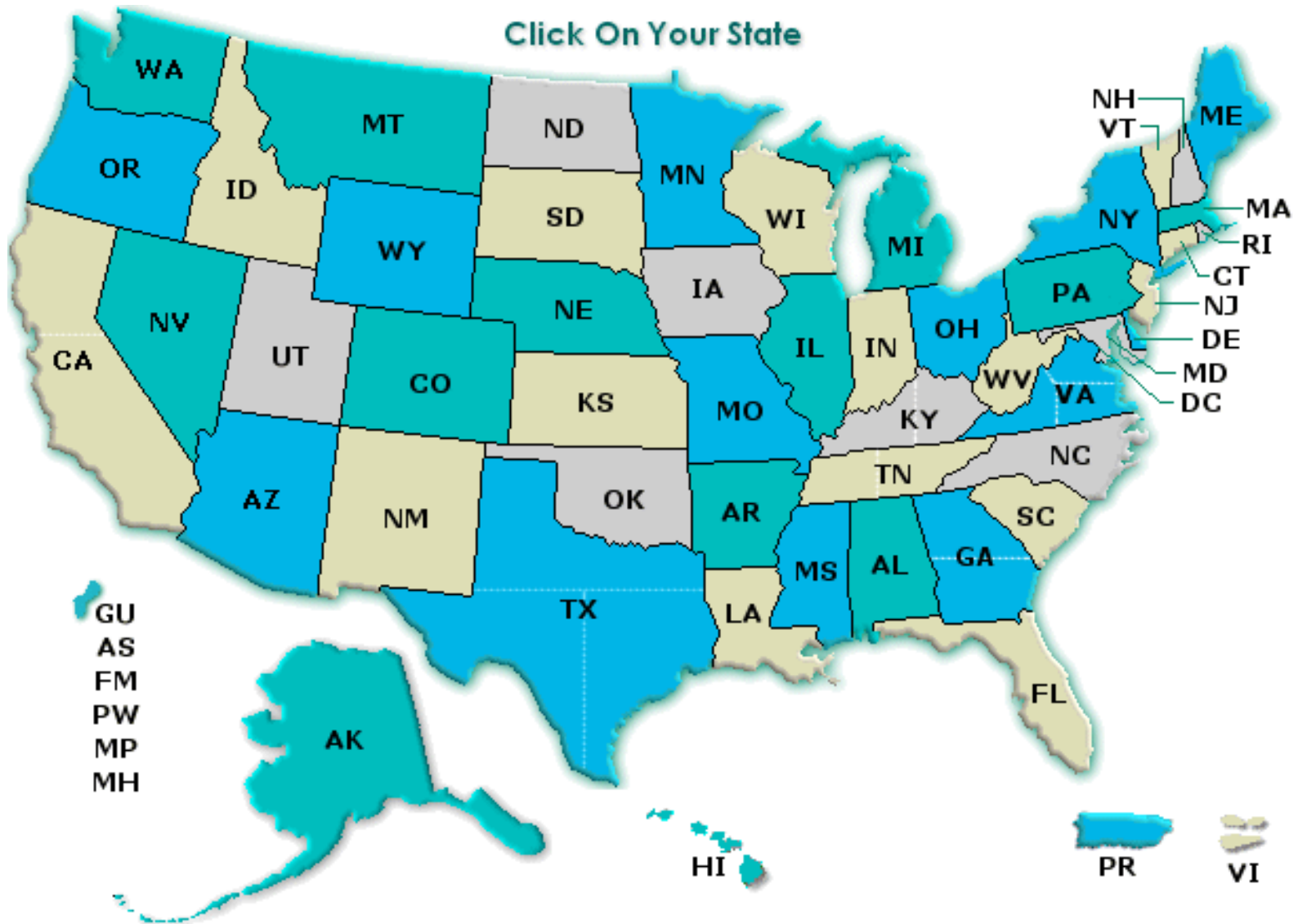
Table 22.--Classification of the Soils

Soil name	Family or higher taxonomic class
Alred-----	Loamy-skeletal over clayey, siliceous, semiactive, mesic Typic Paleudalfs
Bendavis-----	Loamy-skeletal, siliceous, active, mesic Typic Hapludults
Bender-----	Loamy-skeletal, siliceous, active, mesic Typic Hapludults
Cedargap-----	Loamy-skeletal, mixed, superactive, mesic Cumulic Hapludolls
Clarksville-----	Loamy-skeletal, siliceous, semiactive, mesic Typic Paleudults
Coulstone-----	Loamy-skeletal, siliceous, semiactive, mesic Typic Paleudults
Fanchon-----	Fine-loamy, siliceous, semiactive, mesic Typic Paleudults
Gatewood-----	Very fine, mixed, active, mesic Oxyaquic Hapludalfs
Gressy-----	Fine-loamy, siliceous, semiactive, mesic Typic Paleudalfs
Jerktail-----	Fine, mixed, active, mesic Aquic Hapludalfs
Mano-----	Loamy-skeletal over clayey, mixed, semiactive, mesic Oxyaquic Hapludalfs
Moko-----	Loamy-skeletal, mixed, superactive, mesic Lithic Hapludolls
Ocie-----	Loamy-skeletal over clayey, mixed, semiactive, mesic Oxyaquic Hapludalfs
Pomme-----	Fine-loamy, mixed, semiactive, mesic Typic Paleudalfs
Poynor-----	Loamy-skeletal over clayey, siliceous, semiactive, mesic Typic Paleudults
Racket-----	Fine-loamy, mixed, superactive, mesic Cumulic Hapludolls
Razort-----	Fine-loamy, mixed, active, mesic Mollic Hapludalfs
Relfe-----	Sandy-skeletal, siliceous, mesic Mollic Udifluvents
Rueter-----	Loamy-skeletal, siliceous, active, mesic Typic Paleudalfs
Sandbur-----	Coarse-loamy, siliceous, superactive, nonacid, mesic Mollic Udifluvents
Scholten-----	Loamy-skeletal, siliceous, active, mesic Typic Fragiudults
Secesh-----	Fine-loamy, siliceous, active, mesic Ultic Hapludalfs
Splitlimb-----	Fine-silty, mixed, active, mesic Aquic Paleudults
Tanglenook-----	Fine, mixed, superactive, mesic Typic Argiaquolls
Tick-----	Fine, mixed, subactive, mesic Typic Hapludults
Tonti-----	Fine-loamy, mixed, active, mesic Typic Fragiudults
Topazmill-----	Fine-loamy, siliceous, semiactive, mesic Typic Paleudults
Viraton-----	Fine-loamy, siliceous, active, mesic Oxyaquic Fragiudalfs
Wasola-----	Fine-loamy, siliceous, active, mesic Fragiaquic Hapludalfs
Zanoni-----	Coarse-loamy, siliceous, active, mesic Ultic Hapludalfs

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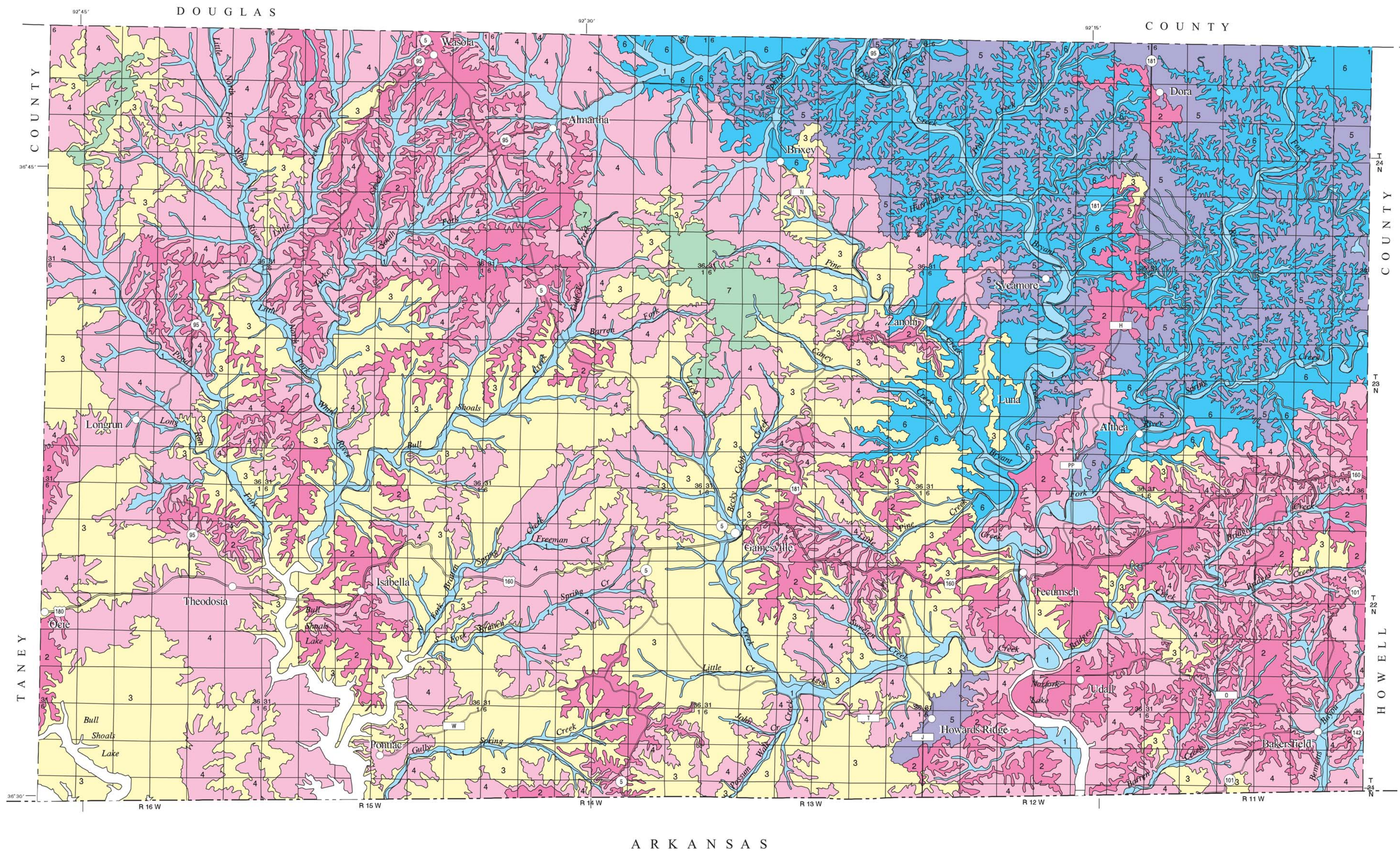
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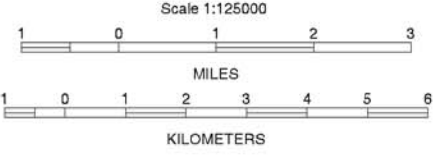
AR K A N S A S

SOIL LEGEND

- 1 Cedargap-Pomme
- 2 Alred-Ocie-Mano
- 3 Gatewood-Moko
- 4 Alred-Gatewood-Ocie
- 5 Poynor-Tonti
- 6 Coulstone-Poynor-Bender
- 7 Rueter-Rock Outcrop-Clarksville

UNITED STATES DEPARTMENT OF AGRICULTURE  
NATURAL RESOURCES CONSERVATION SERVICE  
in Cooperation with  
MISSOURI DEPARTMENT OF NATURAL RESOURCES,  
MISSOURI AGRICULTURAL EXPERIMENT STATION  
U.S. FOREST SERVICE

GENERAL SOIL MAP  
OZARK COUNTY, MISSOURI

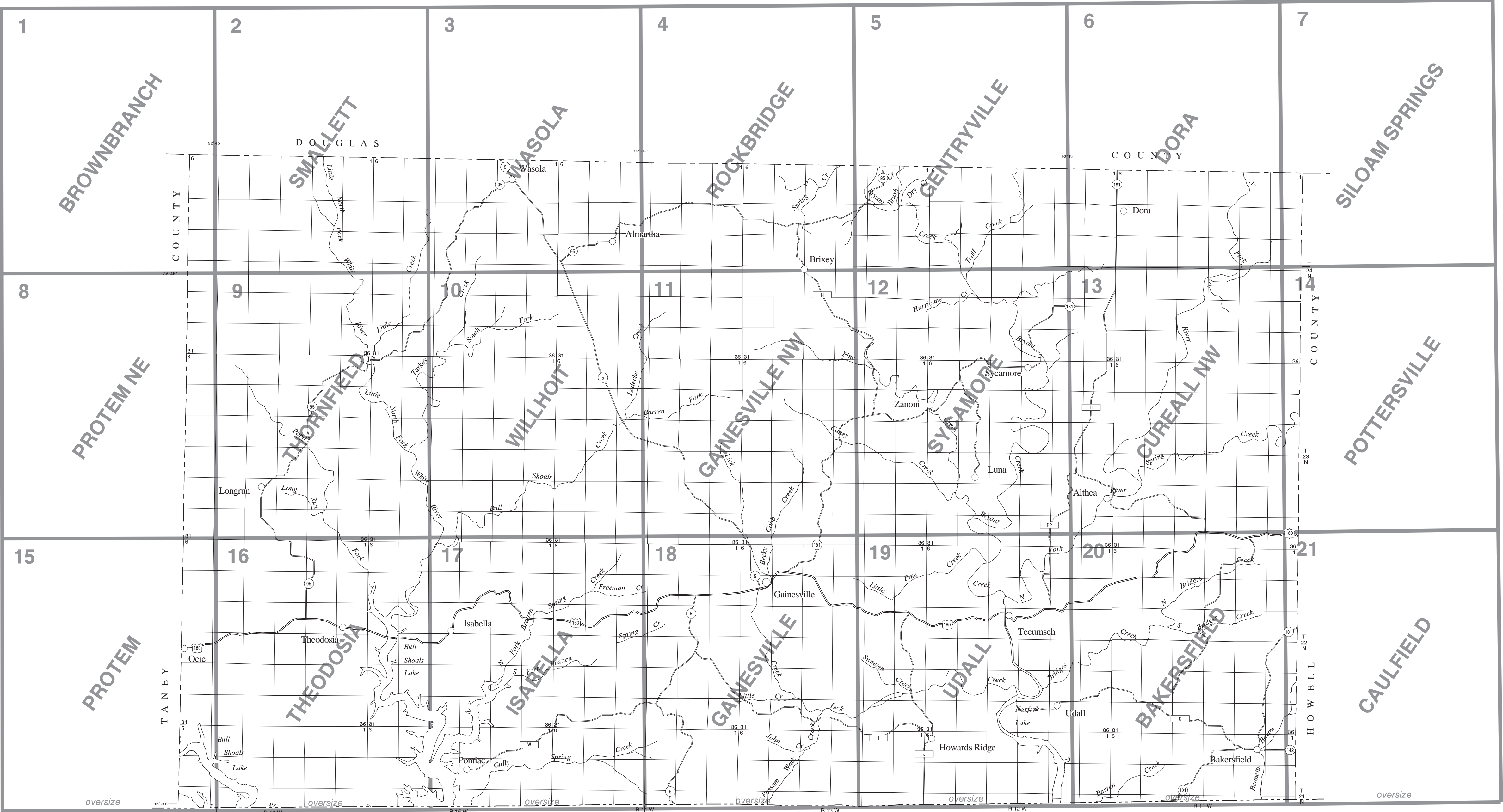


Compiled 2003

SECTIONALIZED  
TOWNSHIP

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36



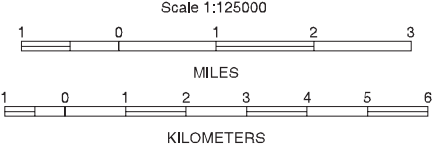


ARKANSAS

SECTIONALIZED TOWNSHIP

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

INDEX TO MAP SHEETS  
OZARK COUNTY, MISSOURI



SOIL LEGEND

Map symbols consist of five-digit numbers that represent the individual map units. The symbols are related to the MLRA in which the typical pedon is located and to the landform on which it occurs. These symbols are part of the Missouri statewide soil identification legend.

SYMBOL	NAME
70026	Tonti silt loam, 1 to 3 percent slopes
73000	Pomme silt loam, 3 to 8 percent slopes
73015	Viraton silt loam, 1 to 3 percent slopes
73017	Bendavis-Poynor complex, 15 to 50 percent slopes, rocky, very stony
73019	Poynor very gravelly silt loam, 1 to 8 percent slopes
73023	Mano-Ocie complex, 1 to 8 percent slopes
73024	Mano-Ocie complex, 8 to 15 percent slopes, stony
73069	Tick extremely gravelly silt loam, 15 to 50 percent slopes, very stony
73073	Scholten-Poynor complex, 8 to 15 percent slopes
73076	Mano-Ocie complex, 15 to 35 percent slopes, stony
73198	Gressy-Viraton complex, 3 to 8 percent slopes
73199	Moko-Rock outcrop complex, 3 to 15 percent slopes, very flaggy
73220	Poynor extremely gravelly silt loam, 8 to 15 percent slopes
73221	Poynor very gravelly silt loam, karst, 3 to 35 percent slopes, stony
73222	Splitlimb silt loam, 0 to 3 percent slopes, frequently ponded
73223	Coulstone-Bender complex, 15 to 50 percent slopes, very stony
73224	Moko-Rock outcrop complex, 15 to 35 percent slopes, extremely flaggy
73225	Ocie-Gatewood complex, 3 to 8 percent slopes
73226	Ocie-Gatewood complex, 3 to 15 percent slopes, stony
73227	Ocie-Gatewood complex, 15 to 35 percent slopes, very stony
73228	Gatewood-Moko complex, 3 to 15 percent slopes, very rocky, very flaggy
73229	Gatewood-Moko complex, 15 to 35 percent slopes, very rocky, very flaggy
73230	Coulstone-Bender-Gatewood complex, 15 to 60 percent slopes, rocky, very stony
73231	Wasola silt loam, 1 to 8 percent slopes
73232	Alred-Ocie complex, 1 to 8 percent slopes
73233	Alred-Ocie complex, 8 to 15 percent slopes
73234	Alred-Gatewood complex, 15 to 35 percent slopes, stony
73235	Alred very gravelly silt loam, karst, 3 to 60 percent slopes, stony
73236	Scholten-Poynor complex, 3 to 8 percent slopes
73237	Clarksville very gravelly silt loam, 3 to 15 percent slopes
73239	Rueter-Rock outcrop complex, 15 to 50 percent slopes, very stony
73240	Jerktail silt loam, 3 to 8 percent slopes
73242	Fanchon-Tonti complex, 3 to 8 percent slopes
73243	Topazmill loam, 3 to 8 percent slopes
73245	Alred very gravelly silt loam, 1 to 8 percent slopes
73246	Alred very gravelly silt loam, 8 to 15 percent slopes
73247	Alred extremely gravelly silt loam, 15 to 35 percent slopes
73248	Alred-Bendavis complex, 8 to 15 percent slopes
73249	Alred-Ocie-Bendavis complex, 15 to 35 percent slopes, stony
74626	Tanglenook silt loam, 0 to 3 percent slopes, rarely flooded
74657	Pomme silt loam, bench, 1 to 8 percent slopes
74658	Zanoni fine sandy loam, 1 to 3 percent slopes, rarely flooded
75382	Cedargap gravelly loam, 0 to 3 percent slopes, frequently flooded
75390	Razort silt loam, 0 to 3 percent slopes, rarely flooded
75406	Racket loam, 0 to 3 percent slopes, frequently flooded
75417	Relfe-Sandbur complex, 0 to 3 percent slopes, frequently flooded
75422	Secesh loam, 0 to 3 percent slopes, occasionally flooded
75423	Cedargap very gravelly silt loam, 0 to 3 percent slopes, occasionally flooded
75424	Sandbur fine sandy loam, 0 to 3 percent slopes, frequently flooded
99001	Water
99002	Borrow areas

CONVENTIONAL AND SPECIAL  
SYMBOLS LEGEND

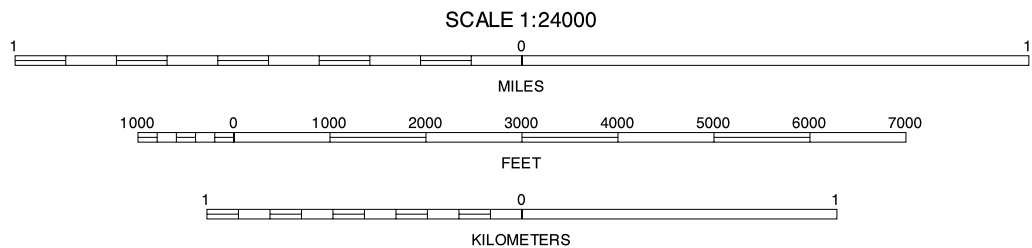
BOUNDARIES		MISCELLANEOUS CULTURAL FEATURES		SOIL DELINEATIONS AND SYMBOLS	
National, state, or province		Farmstead, house (omit in urban areas)			
County or parish		Church		LANDFORM FEATURES	
Minor civil division		School		ESCARPMENTS	
Reservation (national forest or park, state forest or park)		Other Religion (label)		Bedrock	
Land grant		Located object (label)		Other than bedrock	
Limit of soil survey (lable) and/or denied access area		Tank (label)		SHORT STEEP SLOPE	
Field sheet matchline & neatline		Lookout Tower		GULLY	
Previously Published Survey		Oil and/or Natural Gas Wells		DEPRESSION, closed	
OTHER BOUNDARY (label)		Windmill		SINKHOLE	
Airport, airfield		Lighthouse		EXCAVATIONS	
Cemetery		HYDROGRAPHIC FEATURES		PITS	
City/county park		STREAMS		Borrow pits	
STATE COORDINATE TICK 1 890 000 FEET		Perennial, double line		Gravel pit	
LAND DIVISION CORNER (section and land grants)		Perennial, single line		Mine or quarry	
GEOGRAPHIC COORDINATE TICK		Intermittent		LANDFILL	
TRANSPORTATION		Drainage end		MISCELLANEOUS SURFACE FEATURES	
Divided roads		DRAINAGE AND IRRIGATION		Blowout	
Other roads		Double-line canal (label)		Clay spot	
Trail		Perennial drainage and/or irrigation ditch		Gravelly spot	
ROAD EMBLEM & DESIGNATIONS		Intermittent drainage and/ or irrigation ditch		Lava flow	
Interstate		SMALL LAKES, PONDS AND RESERVOIRS		Marsh or swamp	
Federal		Perennial water		Rock outcrop (includes sandstone and shale)	
State		Miscellaneous water		Saline spot	
County, farm or ranch		Flood pool line		Sandy spot	
RAILROAD		MISCELLANEOUS WATER FEATURES		Severely eroded spot	
POWER TRANSMISSION LINE (normally not shown)		Spring		Slide or slip	
PIPE LINE (normally not shown)		Well, artesian		Sodic spot	
FENCE (normally not shown)		Well, irrigation		Spoil area	
LEVEES				Stony spot	
Without road				Very stony spot	
With road				Wet spot	
With railroad					
Single side slope (showing actual feature location)					
DAMS					
Medium or Small					
LANDFORM FEATURES					
Prominent hill or peak					
Soil Sample Site					





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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Soil map delineations extending beyond the dashed white quadrangle neartine are for reference only and are included on adjacent map sheets. Digital data are available for this quadrangle.



1	2	3	1 KELTNER
			2 GOODHOPE
			3 AVA
4		5	4 BRADLEYVILLE
			5 SMALLETT
			6 HILDA
6	7	8	7 PROTEM NE
			8 THORNFIELD

INDEX TO ADJOINING 7.5 MAPS

BROWNBRANCH, MISSOURI  
7.5 MINUTE SERIES  
SHEET NUMBER 1 OF 21



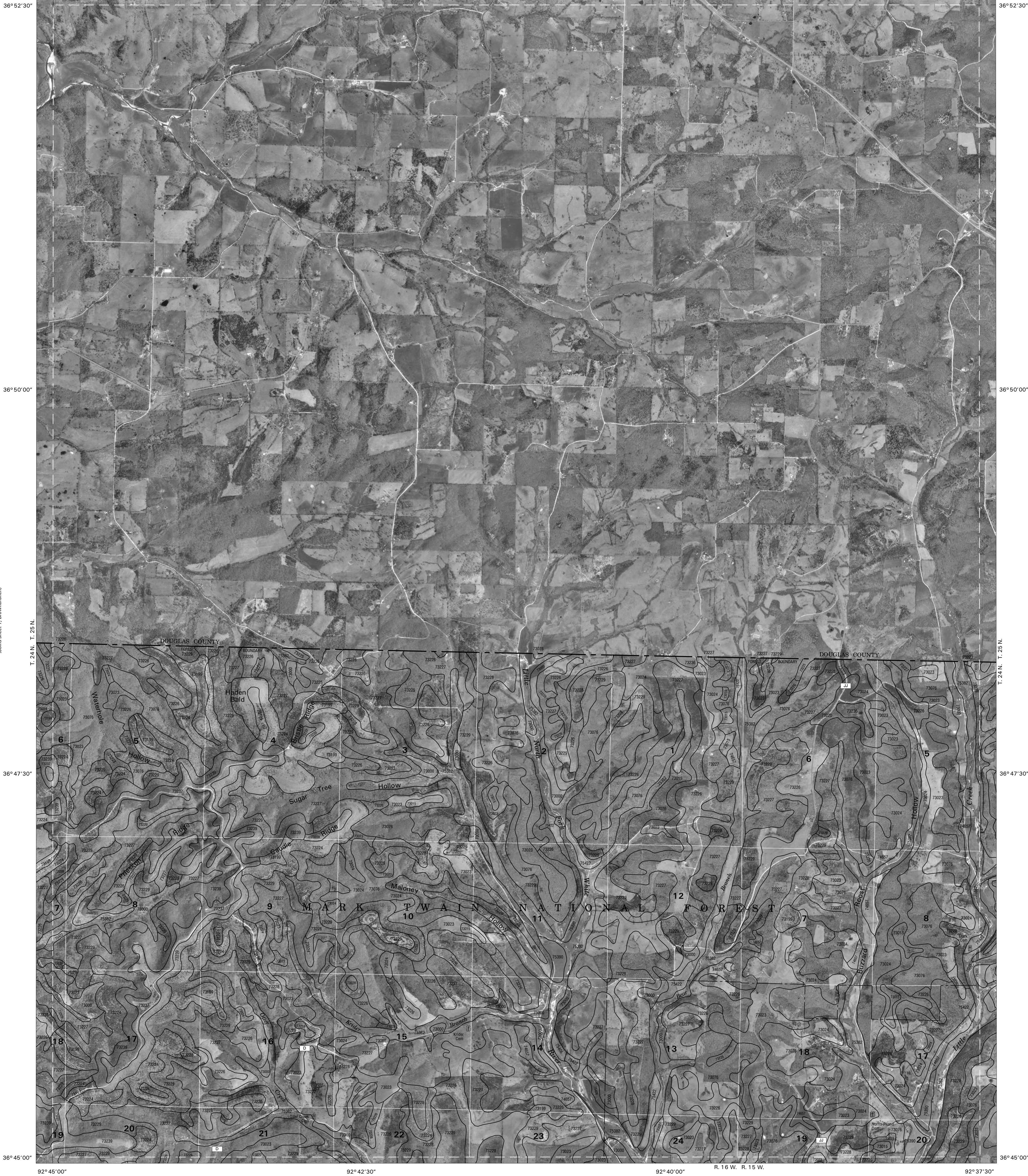
92°45'00" R. 17 W. R. 16 W.

92°42'30"

92°40'00"

R. 16 W. R. 15 W.

92°37'30"



This soil survey was compiled by the U.S. Department of Agriculture Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1984-1995 aerial photography. Public land survey system (PLSS) and culture information were acquired from U.S. Geological Survey.

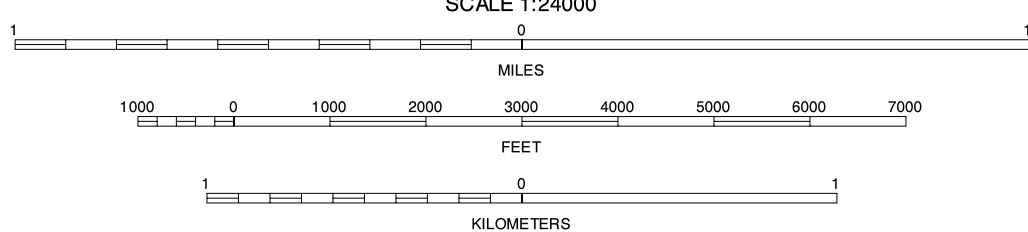
North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Soil map delineations extending beyond the dashed white quadrangle neartine are for reference only and are included on adjacent map sheets. Digital data are available for this quadrangle.

NORTH



QUADRANGLE LOCATION

SCALE 1:24000



1	2	3
4	5	6
7	8	9

INDEX TO ADJOINING 7.5 MAPS

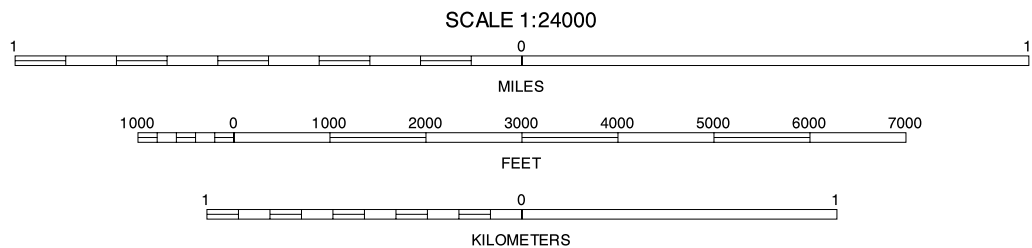
SMALLETT, MISSOURI  
7.5 MINUTE SERIES  
SHEET NUMBER 2 OF 21





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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Soil map delineations extending beyond the dashed white quadrangle neeline are for reference only and are included on adjacent map sheets. Digital data are available for this quadrangle.

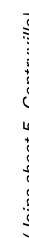


1	2	3	1
4	5	6	2
7	8	9	3

INDEX TO ADJOINING 7.5 MAPS

WASOLA, MISSOURI  
7.5 MINUTE SERIES  
SHEET NUMBER 3 OF 21





1	2	3	1 SWEDEN
			2 BRUSHYKNOB
4		5	3 VANZANT
			4 WASOLA
6	7	8	5 GENTRYVILLE
			6 WILLHOIT
			7 GAINESVILLE NW
			8 SYCAMORE

INDEX TO ADJOINING TOWNS

ROCKBRIDGE, MISSOURI  
7.5 MINUTE SERIES  
SHEET NUMBER 4 OF 21



92°22'30"

92°20'00"

R. 13 W. R. 12 W.

92°17'30"

92°15'00"

36°52'30"

36°52'30"

36°50'00"

36°50'00"

36°47'30"

36°47'30"

36°45'00"

36°45'00"

T. 24 N. T. 25 N.

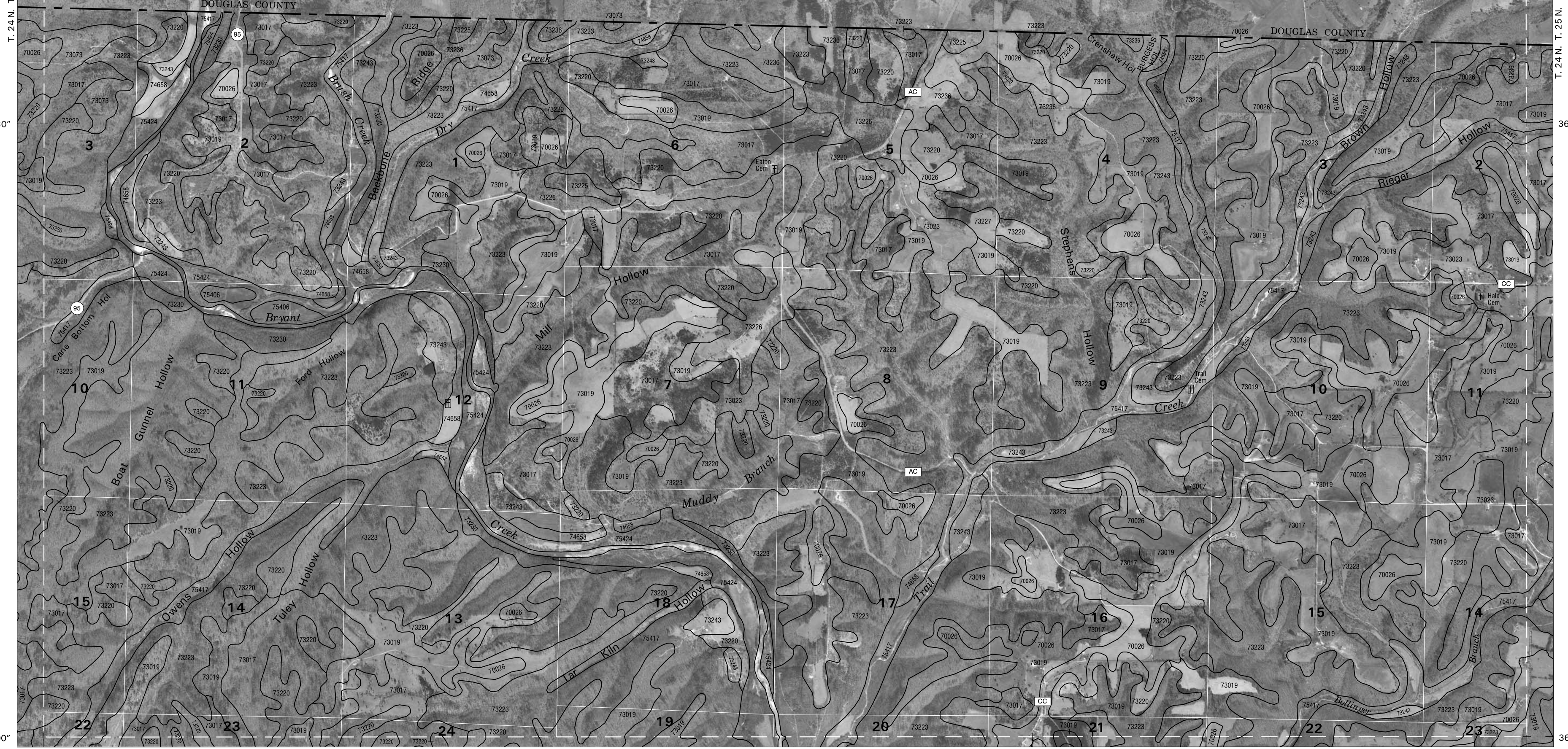
T. 24 N. T. 25 N.

92°22'30"

R. 13 W. R. 12 W.  
92°20'00"

92°17'30"

92°15'00"



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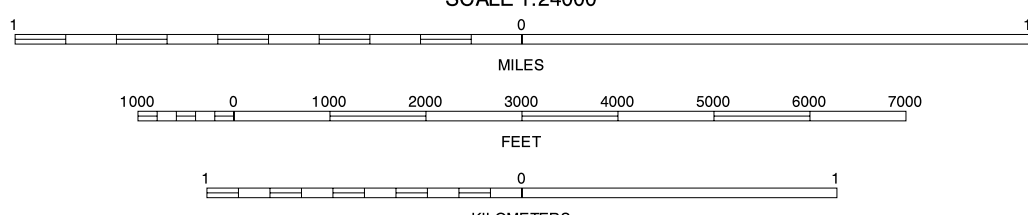
North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Soil map delineations extending beyond the dashed white quadrangle neckline are for reference only and are included on adjacent map sheets. Digital data are available for this quadrangle.

NORTH



QUADRANGLE LOCATION

SCALE 1:24000

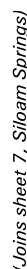


1	2	3
4	5	6
7	8	9

INDEX TO ADJOINING 7.5 MAPS

GENTRYVILLE, MISSOURI  
7.5 MINUTE SERIES  
SHEET NUMBER 5 OF 21





1	2	3	1 VANZANT
4		5	2 NICHOLS KNOB
6	7	8	3 DYESTONE MOUNTAIN
			4 GENTRYVILLE
			5 SILOAM SPRINGS
			6 SYCAMORE
			7 CUREALL NW
			8 POTTERSVILLE

INDEX TO ADJOINING 7.5 MAPS

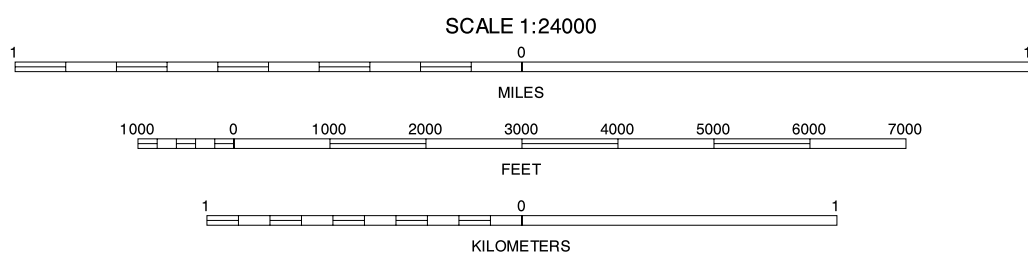
DORA, MISSOURI  
7.5 MINUTE SERIES  
SHEET NUMBER 6 OF 21





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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets. Digital data are available for this quadrangle.



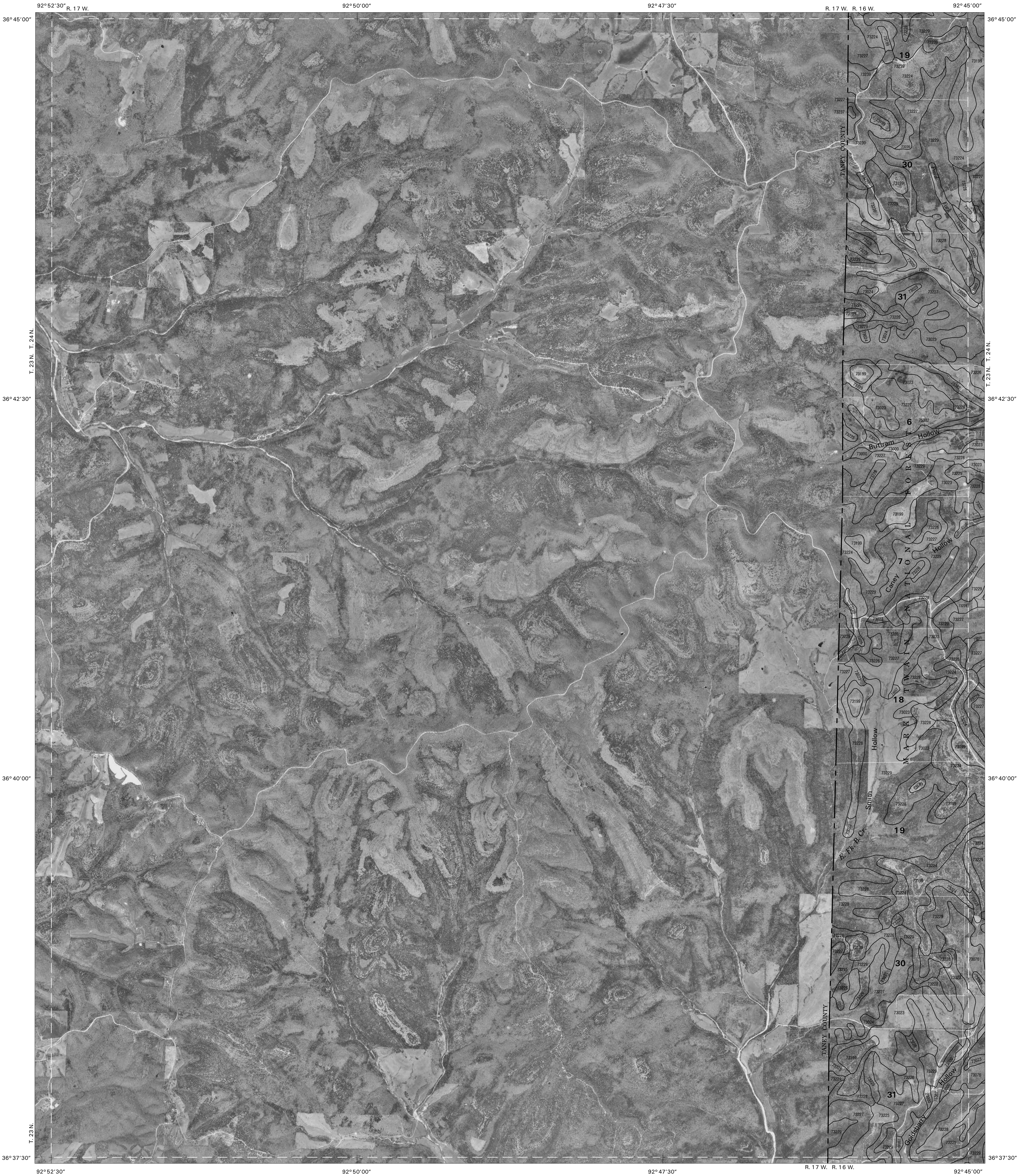
1	2	3	1 NICHOLS KNOB
4	5	6	2 DYESTONE MOUNTAIN
7	8	9	3 WILLOW SPRINGS SOUTH
10	11	12	4 DORIA
13	14	15	5 POMONA
16	17	18	6 CUREALL NW
19	20	21	7 POTTERSVILLE
22	23	24	8 SOUTH FORK

INDEX TO ADJOINING 7.5 MAPS

SILOAM SPRINGS, MISSOURI  
7.5 MINUTE SERIES  
SHEET NUMBER 7 OF 21



(Joins sheet 1, Brownbranch)



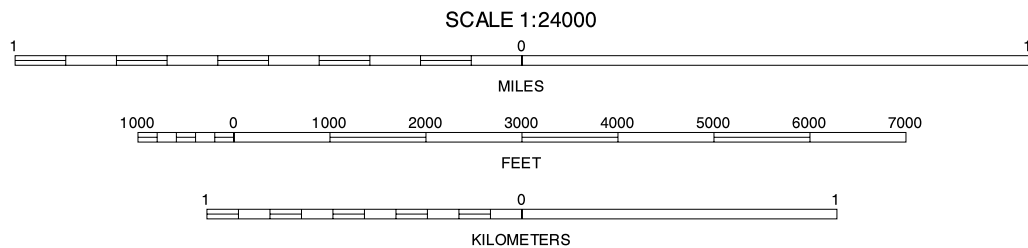
(Joins sheet 9, Thornfield)

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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets. Digital data are available for this quadrangle.



QUADRANGLE LOCATION



1	2	3	1
4	5	6	2
6	7	8	3

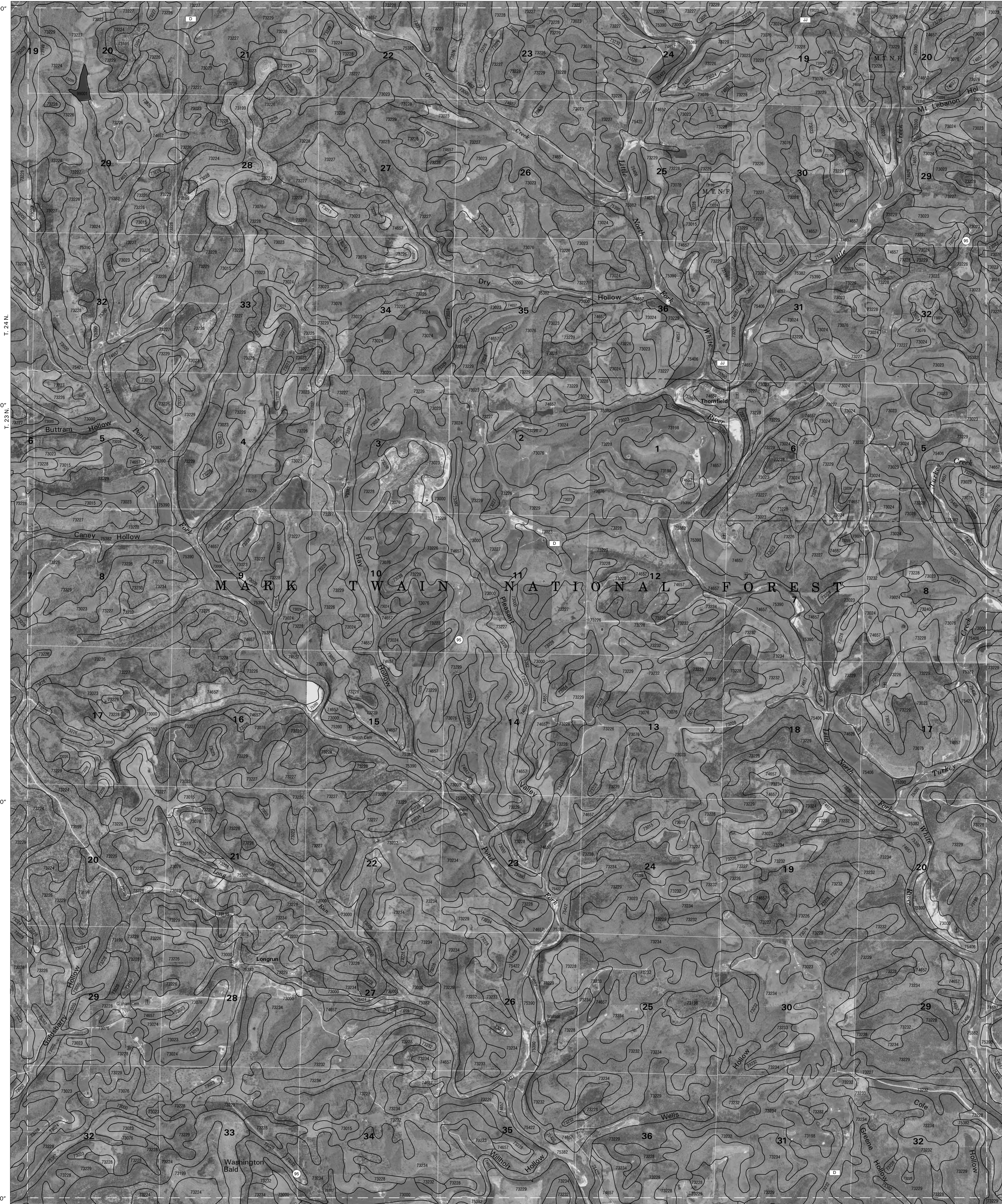
INDEX TO ADJOINING 7.5 MAPS

PROTEM NE, MISSOURI  
7.5 MINUTE SERIES  
SHEET NUMBER 8 OF 21



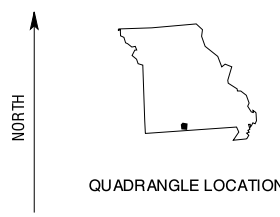
(Joins sheet 2, Smallett)

R. 16 W. R. 15 W.

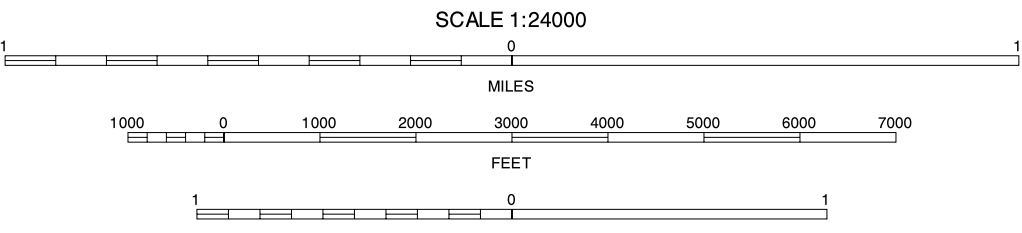


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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Soil map delineations extending beyond the dashed white quadrangle neckline are for reference only and are included on adjacent map sheets. Digital data are available for this quadrangle.



QUADRANGLE LOCATION



1	2	3	1 BROWNBRANCH
			2 SMALLETT
			3 WASOLA
4		5	4 PROTEM NE
			5 WILLOIT
			6 PROTEM
6	7	8	7 THEODOGIA
			8 ISABELLA

INDEX TO ADJOINING 7.5 MAPS

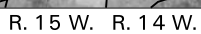
THORNFIELD, MISSOURI  
7.5 MINUTE SERIES  
SHEET NUMBER 9 OF 21



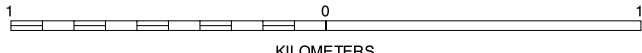
## 92° 37' 30"

(Joins sheet 3. Wasola)

## 92°



North American Datum of 1983 (NAD83), GRS-80 Spheroid  
1000-meter ticks: Universal Transverse Mercator, zone 15.  
Coordinate grid ticks and land division data, if shown, are  
approximately positioned. Soil map delineations extending  
beyond the dashed white quadrangle neatline are for reference  
only and are included on adjacent map sheets. Digital data are  
available for this quadrangle.



## INDEX TO ADJOINING 7.5 MAPS

7.5 MINUTE SERIES  
SHEET NUMBER 10 OF 2



(Joins sheet 4, Rockbridge)

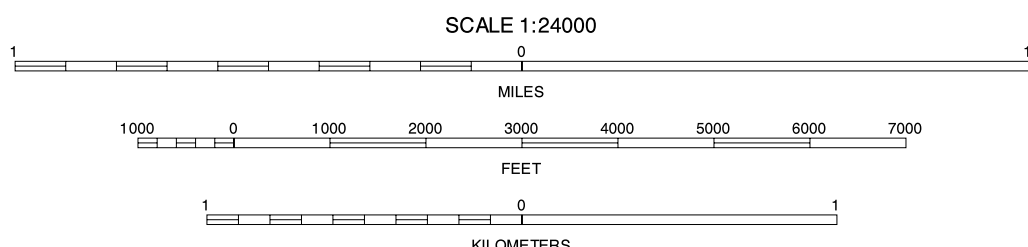


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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Soil map delineations extending beyond the dashed white quadrangle nealines are for reference only and are included on adjacent map sheets. Digital data are available for this quadrangle.



QUADRANGLE LOCATION



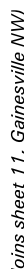
1	2	3
4	5	6
7	8	9

INDEX TO ADJOINING 7.5 MAPS

GAINESVILLE NW, MISSOURI  
7.5 MINUTE SERIES  
SHEET NUMBER 11 OF 21



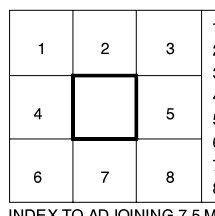
(Joins sheet 5, Gentryville)



Joining sheet 1.3 Curcell NW1

North American Datum of 1983 (NAD83). GRS-80 Spheroid  
1000-meter ticks: Universal Transverse Mercator, zone 15.  
Coordinate grid ticks and land division data, if shown, are  
approximately positioned. Soil map delineations extending  
beyond the dashed white quadrangle neckline are for reference  
only and are included on adjacent map sheets. Digital data are  
available for this quadrangle.

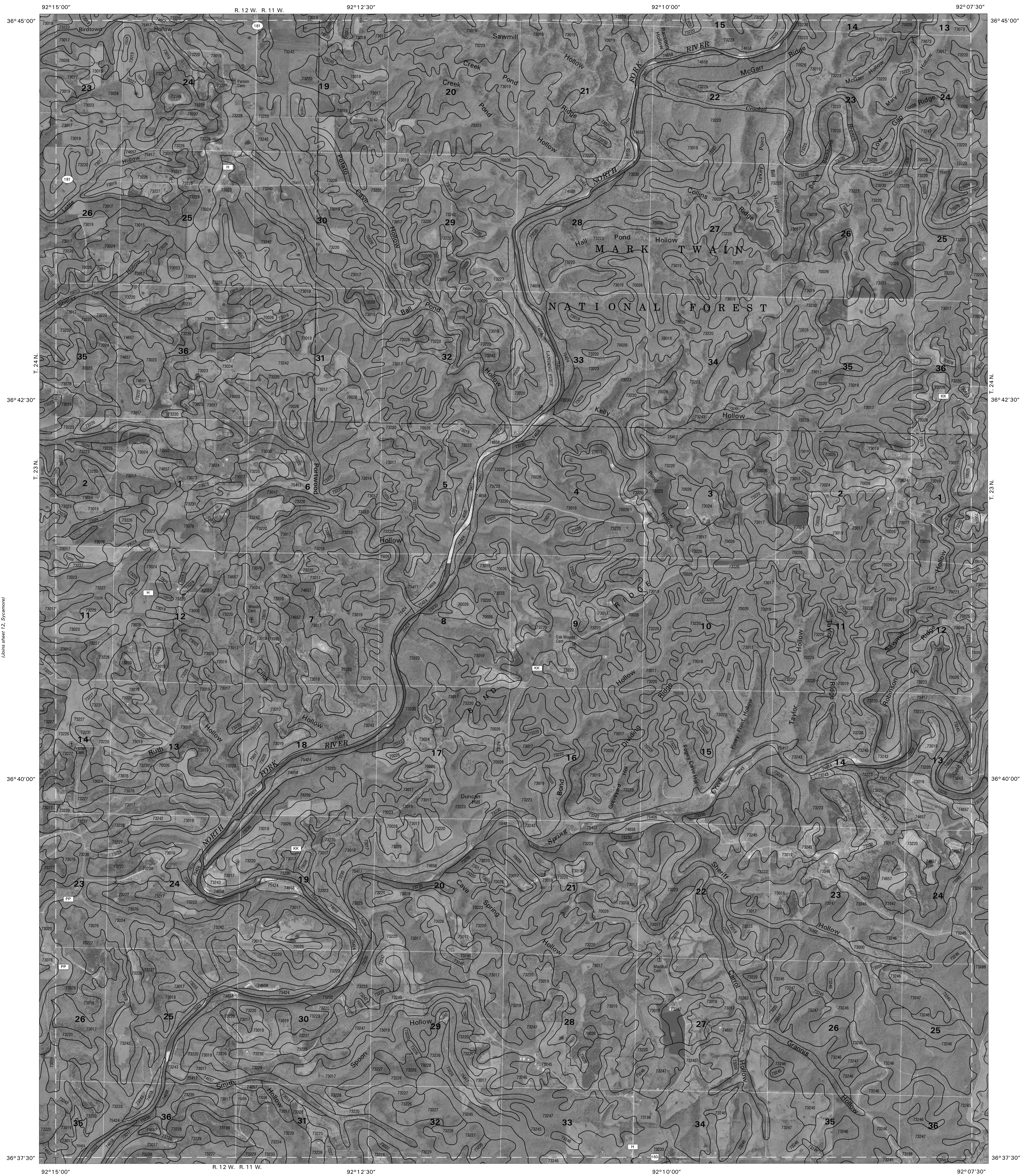
QUADRANGLE LOCATION



## INDEX TO ADJOINING 7.5 MAPS

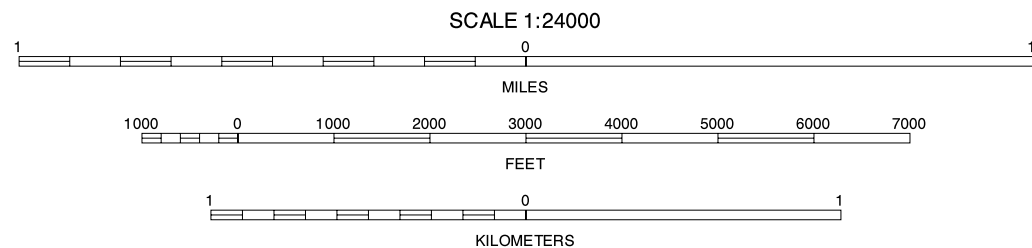
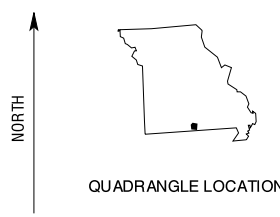
SYCAMORE, MISSOURI  
7.5 MINUTE SERIES  
SHEET NUMBER 12 OF 21





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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Soil map delineations extending beyond the dashed white quadrangle neartline are for reference only and are included on adjacent map sheets. Digital data are available for this quadrangle.



1	2	3
4	5	6
7	8	9

INDEX TO ADJOINING 7.5 MAPS

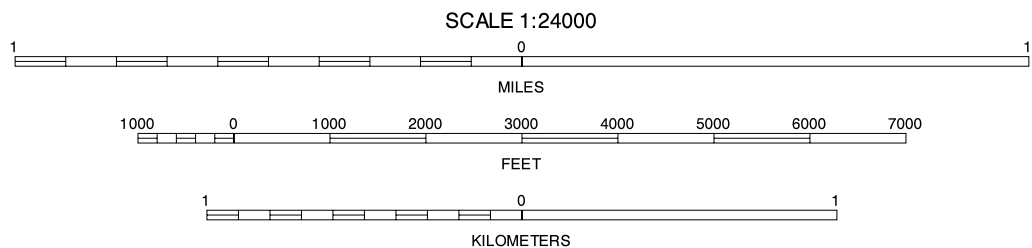
CUREALL NW, MISSOURI  
7.5 MINUTE SERIES  
SHEET NUMBER 13 OF 21





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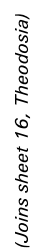


1	2	3	1 DORA
			2 SILOAM SPRINGS
			3 POMONA
4		5	4 CUREALL NW
			5 SOUTH FORK
			6 BAKERSFIELD
6	7	8	7 CAULFIELD
			8 MOODY

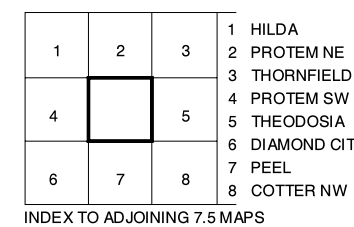
INDEX TO ADJOINING 7.5 MAPS

POTTERSVILLE, MISSOURI  
7.5 MINUTE SERIES  
SHEET NUMBER 14 OF 21

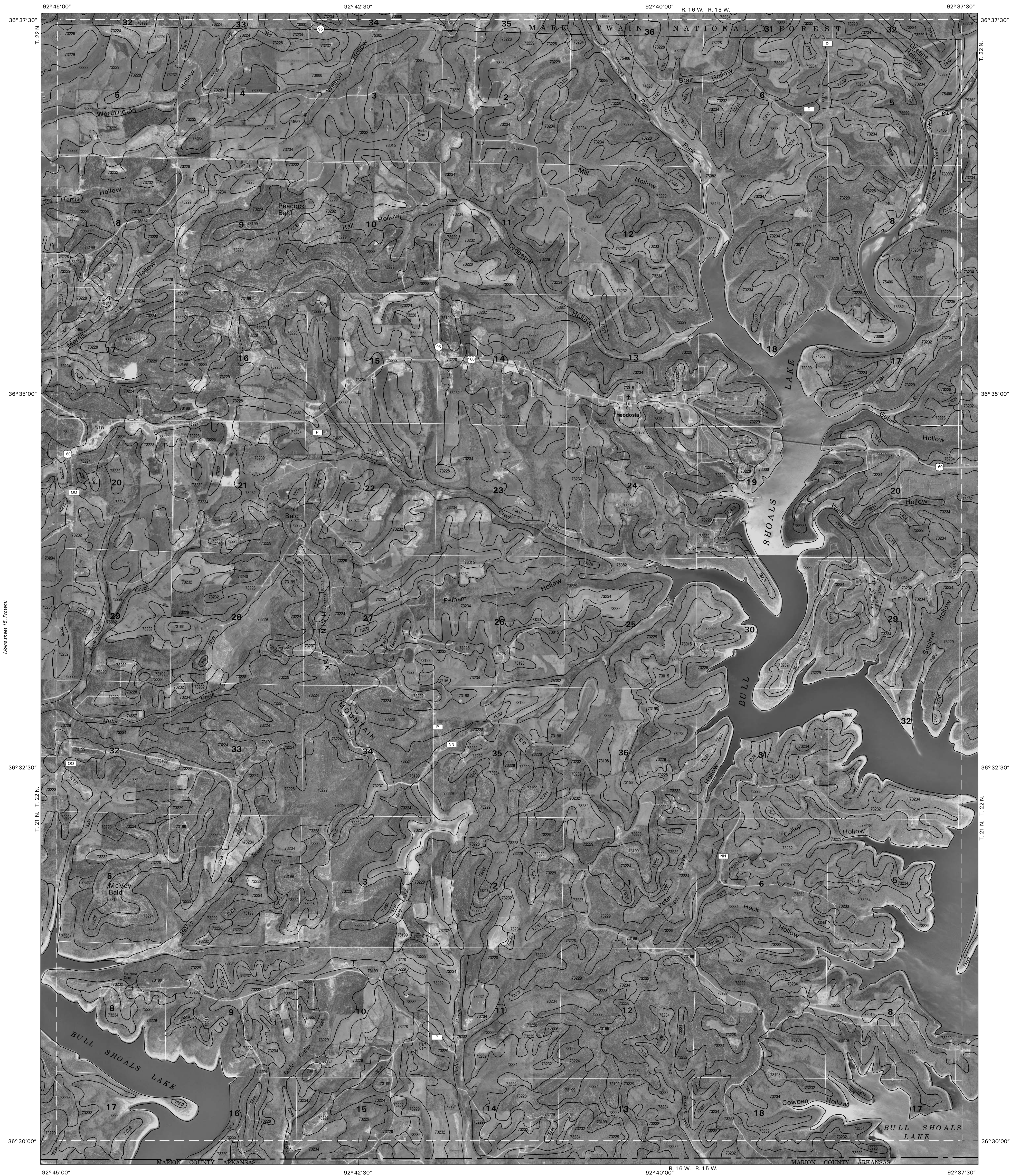




North American Datum of 1983 (NAD83), GRS-80 Spheroid  
1000-meter ticks: Universal Transverse Mercator, zone 15.  
Coordinate grid ticks and land division data, if shown, are  
approximately positioned. Soil map delineations extending  
beyond the dashed white quadrangle neatline are for reference  
only and are included on adjacent map sheets. Digital data are  
available for this quadrangle.

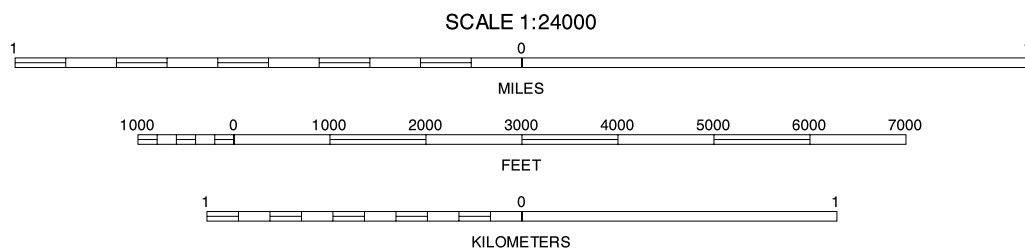






This soil survey was compiled by the U.S. Department of Agriculture Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1994-1995 aerial photography. Public land survey system (PLSS) and culture information were acquired from U.S. Geological Survey.

North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets. Digital data are available for this quadrangle.



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THEODOSIA, MISSOURI  
7.5 MINUTE SERIES  
SHEET NUMBER 16 OF 21

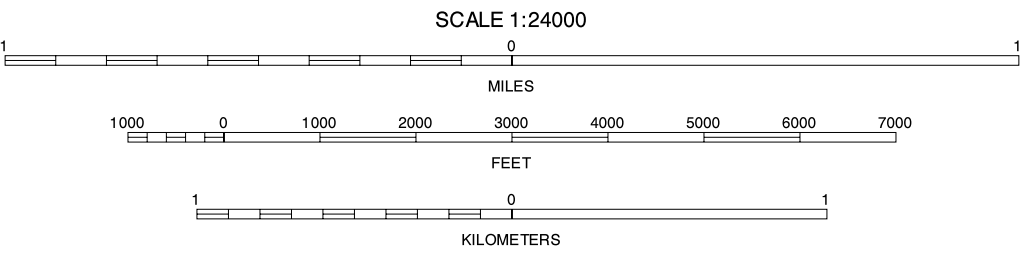


(Joins sheet 10, Willhoit)



This soil survey was compiled by the U.S. Department of Agriculture Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1994-1995 aerial photography. Public land survey system (PLSS) and culture information were acquired from U.S. Geological Survey.

North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets. Digital data are available for this quadrangle.

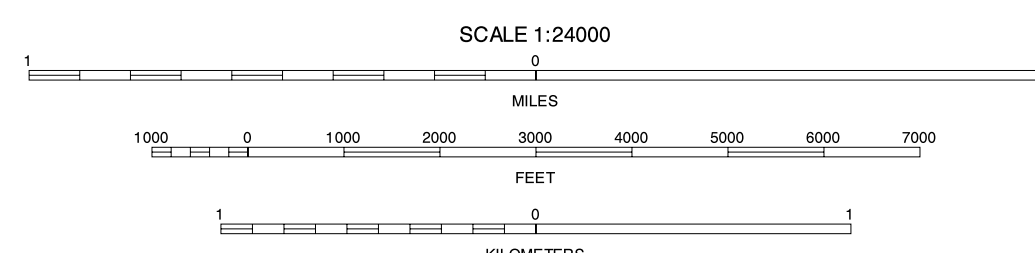
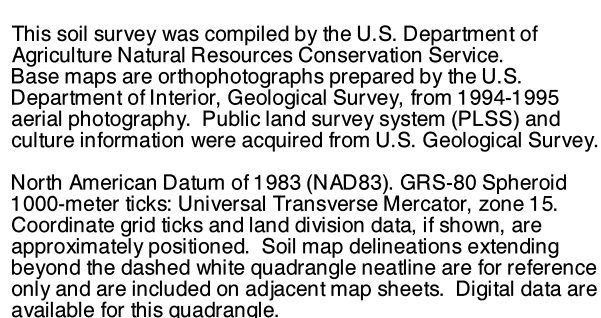


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ISABELLA, MISSOURI  
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(Joins sheet 11, Gainesville NW)



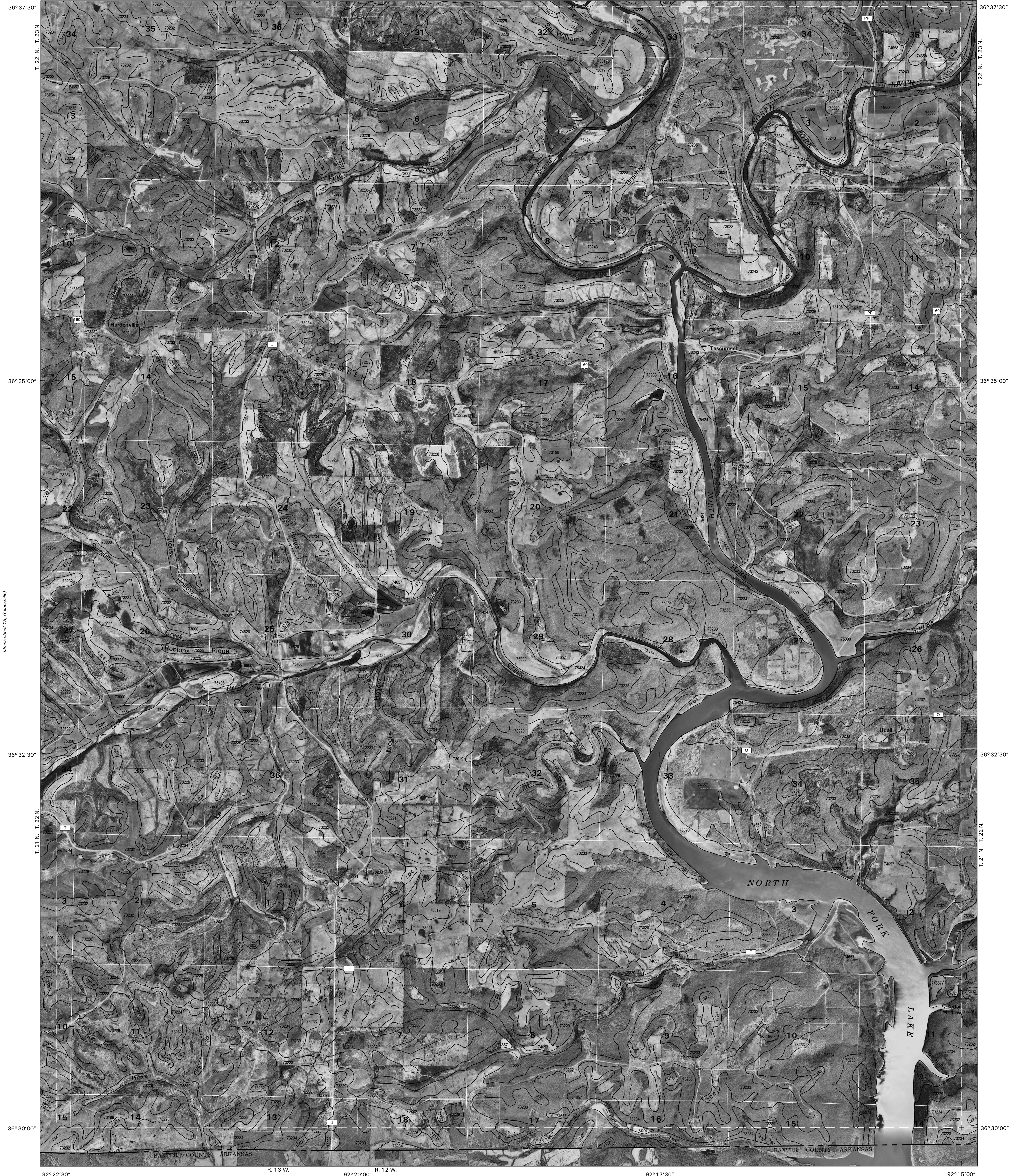
1	2	3	1 WILLHOIT
4		5	2 GAINESVILLE NW
6	7	8	3 SYCAMORE
			4 ISABELLA
			5 UDALL
			6 BULL SHOALS
			7 MIDWAY
			8 CLARKRIDGE

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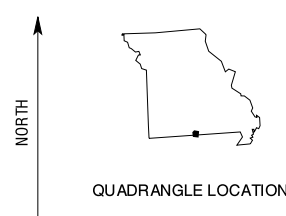


(Joins sheet 12, Sycamore)

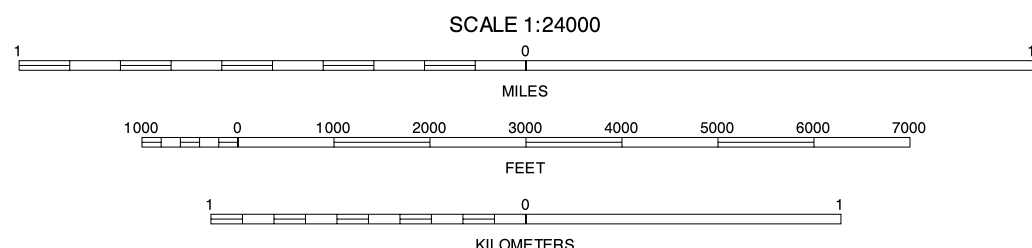


This soil survey was compiled by the U.S. Department of Agriculture Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1984-1995 aerial photography. Public land survey system (PLSS) and culture information were acquired from U.S. Geological Survey.

North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Soil map delineations extending beyond the dashed white quadrangle nealtine are for reference only and are included on adjacent map sheets. Digital data are available for this quadrangle.



QUADRANGLE LOCATION



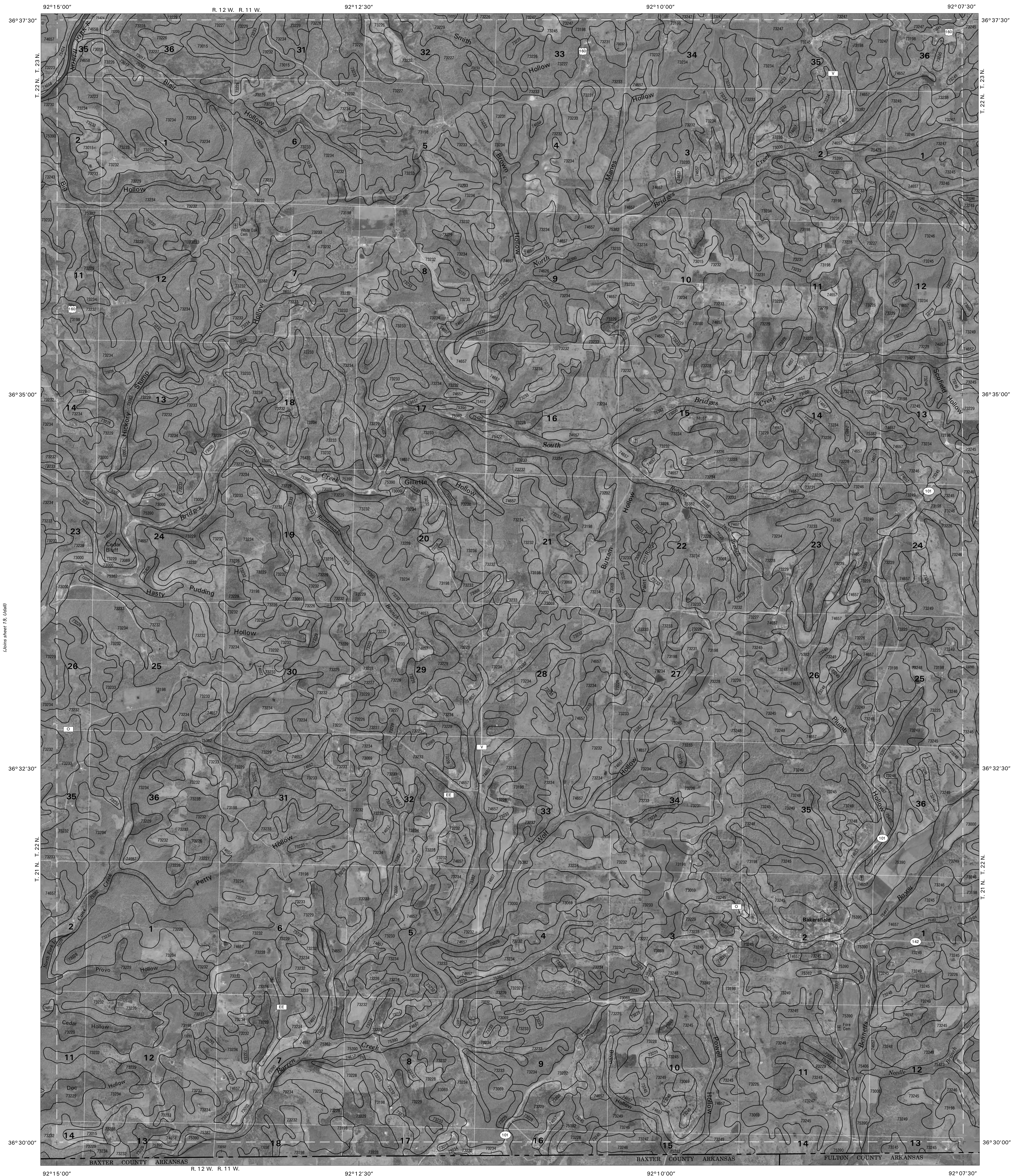
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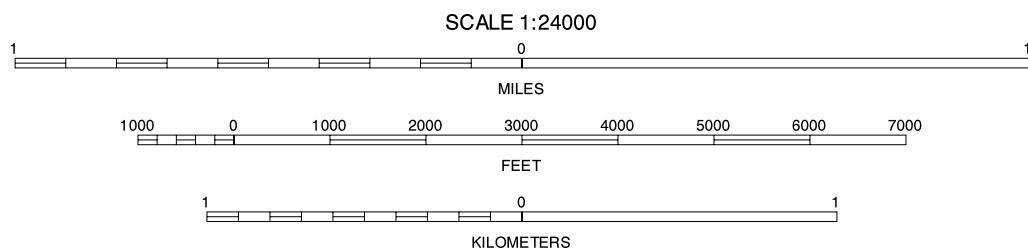


(Joins sheet 13, Cureall NW)



This soil survey was compiled by the U.S. Department of Agriculture Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1994-1995 aerial photography. Public land survey system (PLSS) and culture information were acquired from U.S. Geological Survey.

North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets. Digital data are available for this quadrangle.



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BAKERSFIELD, MISSOURI  
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(Joins sheet 14, Pottersville)



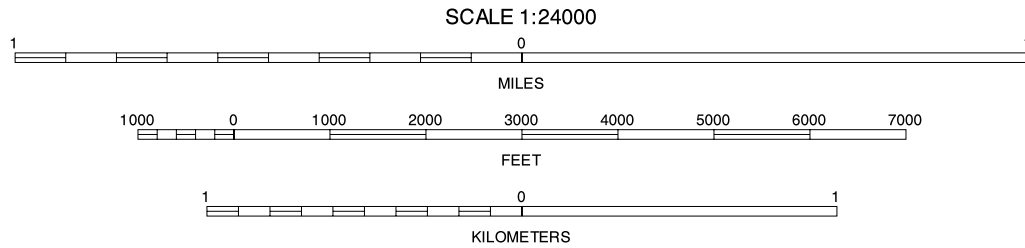
This soil survey was compiled by the U.S. Department of Agriculture Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1994-1995 aerial photography. Public land survey system (PLSS) and culture information were acquired from U.S. Geological Survey.

North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 15. Coordinate grid ticks and land division data, if shown, are approximately positioned. Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets. Digital data are available for this quadrangle.

NORTH



QUADRANGLE LOCATION



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